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## COMPILATION AND SUMMARY OF THE EVAPORATION RECORDS OF THE BUREAU OF PLANT INDUSTRY, U.S. DEPARTMENT OF AGRICULTURE, 1921-32

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The MONTHLY WEATHER REVIEW, October 1921, volume 49, pages 553-566, contains tables of monthly evaporation at stations maintained by the United States Bureau of Plant Industry from the beginning of the records (1907 or later) to 1920, inclusive. Most of the records have been continued down to the present time, 1934. The records for 1921-32, inclusive, have been furnished for publication by William A. Taylor, then Chief, Bureau of Plant Industry, United States Department of Agriculture. A transcript was made from the original records on file in the Bureau by Mr. John S. Cole, and the data have been arranged in form for publication, the means computed and the accompanying discussion prepared, by Robert E. Horton.

A list of all the stations at which evaporation records have been maintained is given in table 1.

Table 2 contains records of monthly evaporation at the different stations maintained during the period 1921-32 or portions thereof, and the monthly means of air temperature, wind velocity, and vapor pressure. These quantities are designated  $\Theta_a$ ,  $W$ , and  $V$ , respectively. The observed evaporation in inches per month is designated  $E_o$ .

During the period 1921 to 1932, inclusive, all the evaporation pans, circular, were 6 feet in diameter and 24 inches deep, buried 20 inches in the soil and kept filled with water to the soil-surface level or 4 inches below the rim of the pan. The anemometer cups were in general 20 inches above the rim of the pan or 24 inches above ground.

The mean air temperatures were obtained by taking the average of the maximum and minimum readings of thermometers exposed 4 feet above ground in standard instrument shelters.

The vapor pressures were obtained by averaging the results derived from psychrometer readings at 7 a.m., 1 p.m., and 5 p.m. Temperature, evaporation, and anemometer readings were taken at about 7 a.m. and recorded as of the previous day. The instructions required that grass be kept cut and other obstructions removed from the vicinity of the evaporation pans so as to permit free wind movement close to the water surface.

Table 3 shows the total evaporation for the 6 months, April to September, inclusive, of each year, for each station. Most of the records are complete for the 15-year period, 1917 to 1931, inclusive. During this interval all the evaporation pans were 6 feet in diameter. The averages of the data for this period are given for each station

on the summary sheets. These averages are homogeneous in duration and condition and afford a reliable basis of comparison of evaporation at the different stations. In cases where the record is not complete for this period it has been extended, as indicated by footnotes, by Fournie's method, i.e., the ratio of the evaporation for the period of record to the evaporation for the same period at an adjacent station for which the entire record was determined. The evaporation for the 15-year period at the station of comparison was multiplied by this ratio. Where data were available, three such determinations were made, and the average of the three is the figure set down as the mean evaporation at the observation station for the 15-year period.

In many cases the records are complete for the 20-year period, 1913-32, and the means for this period are also given where available. These 20-year averages are not, however, altogether homogeneous, as pans 8 feet in diameter were used in the earlier years at some stations.

Vapor emitted near the windward edge of a freely exposed water surface is transported horizontally by wind action, and thus the vapor pressure increased, and the evaporation rate reduced, from windward to leeward. This effect probably approaches a limit as the size of the water surface increases. Some reduction in evaporation depth in an 8-foot as compared with a 6-foot pan undoubtedly occurs, due to this cause, when there is equal freedom of wind action on both. The pans were not, however, dimensionally similar, since the rim depth was the same for the 6-foot and 8-foot pans. There was, therefore, apparently a greater portion of the 8-foot pans freely exposed to wind action than of the 6-foot pans.

The only direct observational data available for comparison of the evaporation from 8-foot and 6-foot pans are contained in a letter (dated Washington, D.C., May 10, 1921) from Mr. J. O. Belz of the Office of Biophysical Investigations, Bureau of Plant Industry, United States Department of Agriculture. Mr. Belz stated: "A comparison of the evaporation from tanks 6 feet and 8 feet in diameter, side by side, made at the Amarillo station for 9 years, showed a mean difference per square foot of surface of 2½ percent, the 6-foot tank giving the higher evaporation."

In the publication of the earlier records water surface temperature data were included for many of the stations. However, all records of water surface temperature at these stations were discontinued prior to 1917.

TABLE 1.—United States Bureau of Plant Industry evaporation records

Station	Record available	Record years used	Latitude (approximate)	Elevation above sea level	Diameter of pan	
					8-foot beginning—	6-foot beginning—
1. Aberdeen, Idaho	1913-20	1920	42° 40'	4,400		1913
2. Akron, Colo.	1909-32	1921-32	40° 40'	4,650	1909	1916
3. Amarillo, Tex.	1908-19		35° 20'	3,676	1908	1910
4. Archer, Wyo.	1914-32	1921-32	41° 00'	6,012		1914
5. Ardmore, S.Dak.	1913-32	1921-32	43° 20'	3,557		1913
6. Biggs, Calif.	1916-32	1920-32	39° 00'	94		1916
7. Big Springs, Tex.	1916-32	1921-32	32° 00'	2,398		1916
8. Burns, Oreg.	1914-19		43° 40'	1,125		1914
9. Chillicothe, Tex.	1913-31	1920-31	34° 20'	1,406		1913
10. Colby, Kans.	1915-32	1921-32	39° 30'	3,135		1915
11. Crowley, La.	1910-31	1920-31	30° 15'	21		1910
12. Dalhart, Tex.	1908-32	1921-32	36° 20'	4,000	1908	1917
13. Dickinson, N.Dak.	1909-32	1921-32	47° 00'	2,543	1909	1917
14. Edgeley, N.Dak.	1908-20		46° 20'	1,468	1908	1917
15. Garden City, Kans.	1908-32	1921-32	38° 00'	2,836	1908	1917
16. Havre, Mont.	1916-32	1921-32	48° 40'	2,565		1916
17. Hays, Kans.	1907-32	1921-32	39° 00'	2,000	1908	1917
18. Hettinger, N.Dak.	1911-21	1921	46° 00'	2,253		1911
19. Lawton, Okla.	1916-32	1921-32	34° 35'	1,111		1916
20. Mandan, N.Dak.	1914-32	1921-32	47° 00'	1,750		1914
21. Moccasin, Mont.	1909-32	1921-32	47° 15'	4,228		1910
22. Moro, Oreg.	1911-31	1920-31	45° 40'	1,800		1911
23. Nephi, Utah	1908-19		39° 45'	6,000	1908	
24. North Platte, Nebr.	1907-32	1921-32	41° 20'	2,841	1908	1915
25. Sheridan, Wyo.	1917-32	1921-32	44° 40'	3,790		1917
26. Tucumcari, N.Mex.	1913-32	1921-32	35° 30'	4,194		1913
27. Williston, N.Dak.	1909-18	1917	48° 00'	1,875	1910	
28. Woodward, Okla.	1914-32	1921-32	36° 30'	1,900		1914

<sup>1</sup> Pan 4 feet in diameter.

TABLE 2

Month and year	$\theta_e$	W	V	E*	Month and year	$\theta_e$	W	V	E*
Aberdeen, Idaho									
1920	$^{\circ} F.$	M.p.h.		Inches	1920	$^{\circ} F.$	M.p.h.		Inches
April	40.0	8.83		3.42	August	66.4	4.22		7.82
May	50.9	6.37		5.85	September	57.0	4.97		5.13
June	59.5	4.95		7.11	Year	57.2	5.59		37.97
July	69.3	4.23		8.64					
1921					1925				
April	45	10.0	0.217	5.505	April	50	8.6	0.289	5.828
May	57	8.3	.293	6.245	May	59	8.2		7.318
June	68	6.0	.438	7.773	June	69	7.0		8.857
July	74	6.8	.472	10.708	July	74	5.7		10.268
August	72	5.9	.446	8.594	August	71	5.5		8.717
September	64	7.0	.369	7.078	September	64	5.1		6.302
Year	63.3	7.3	.372	45.903	Year	64.5	6.7		47.290
1922					1926				
April	44	8.7	.222	4.276	April	48	8.2		5.566
May	56	8.0	.330	6.792	May	60	7.5		6.735
June	69	5.7	.511	8.225	June	67	6.4		8.269
July	71	5.4	.520	9.200	July	71	5.1		8.456
August	75	5.2	.584	8.853	August	73	5.3		8.983
September	66	4.9	.303	7.233	September	60	5.6		6.357
Year	63.5	6.3	.412	44.579	Year	63.2	6.4		44.366
1923					1927				
April	46	7.6	.247	5.091	April	45	7.1		4.625
May	54	7.9	.302	5.479	May	59	7.1		5.192
June	66	7.7	.387	7.808	June	63	6.4		7.194
July	73	5.5	.058		July	70	3.8		8.528
August	69	5.1	.703		August	65	3.5		6.406
September	62	5.4	.629		September	61	3.3		6.259
Year	61.7	6.5		41.429	Year	60.5	5.0		40.429
1924					1928				
April	46	8.5		<sup>1</sup> 5.027	April	44	7.7		5.231
May	51	7.8		7.849	May	58	6.4		6.892
June	67	7.7		8.642	June	59	6.2		6.857
July	73	6.4		10.541	July	71	4.1		8.011
August	75	5.9		10.154	August	70	5.0		8.845
September	58	6.7		5.999	September	61	5.2		7.325
Year	61.7	7.2		48.012	Year	60.5	5.8		43.161

<sup>1</sup> Average 1909-32 (10 years' data).

TABLE 2—Continued

Month and year	$\theta_e$	W	V	E*	Month and year	$\theta_e$	W	V	E*
Akron, Colo.—Continued									
1929	$^{\circ} F.$	M.p.h.		Inches	1931	$^{\circ} F.$	M.p.h.		Inches
April	46	8.8		<sup>1</sup> 5.027	April	46	5.3		<sup>1</sup> 5.027
May	55	7.6		6.919	May	54	5.9		7.166
June	67	6.3		9.044	June	70	4.4		8.443
July	75	5.1		9.020	July	75	4.5		10.225
August	74	3.9		7.702	August	71	3.6		9.229
September	57	4.7		4.285	September	67	3.9		7.442
Year	62.3	6.1		41.997	Year	63.8	4.6		47.532
1930					1932				
April	54	6.8		<sup>1</sup> 5.027	April	48	8.8		5.749
May	52	7.6		5.407	May	59	7.0		7.314
June	67	5.3		8.232	June	66	5.8		7.999
July	73	5.0		8.919	July	76	5.8		11.255
August	71	3.4		6.799	August	73	5.5		10.233
September	62	3.8		5.991	September	63	5.0		6.627
Year	63.2	5.3		40.375	Year	64.2	6.3		49.177
Archer, Wyo.									
1921					1927				
April	40	13.6	0.135	4.908	April	41	9.9	.150	5.156
May	51	7.4	.235	4.789	May	52	10.9	.188	7.232
June	64	5.7	.348	6.235	June	60	8.6	.315	5.337
July	69	4.6	.362	7.426	July	67	6.1	.359	5.902
August	68	5.3	.320	6.863	August	63	4.1	.361	4.543
September	60	6.8	.204	7.057	September	57	4.8	.246	4.387
Year	58.7	7.2	.270	37.278	Year	56.7	7.1	.270	32.557
1922					1928				
April	39	9.8	.162	3.288	April	37	9.4	.123	4.740
May	50	12.2	.212	6.853	May	53	7.3	.258	5.373
June	62	5.8	.329	7.371	June	54	5.9	.290	4.360
July	66	5.1	.337	7.117	July	67	5.1	.351	7.000
August	69	5.0	.387	6.717	August	65	5.5	.270	7.495
September	60	5.2	.223	6.622	September	57	6.7	.200	6.545
Year	57.7	7.2	.275	37.908	Year	55.6	6.6	.249	35.513
1923					1929				
April	40	11.6	.142	5.145	April	40	10.2	.150	5.303
May	51	11.2	.236	5.545	May	49	8.2	.244	5.345
June	59	6.1	.307	6.749	June	60	8.8	.297	7.015
July	68	4.8	.438	6.507	July	69	5.3	.385	7.804
August	64	4.6	.392	5.857	August	66	5.0	.370	6.736
September	56	5.2	.248	4.642	September	53	5.6	.266	4.207
Year	56.3	7.2	.294	34.445	Year	56.7	6.8	.285	36.410
1924					1930				
April	40	14.8	.148	6.049	April	50	7.6	.212	4.756
May	47	8.1	.190	5.648	May	49	7.6	.228	4.327
June	61	7.0	.299	7.170	June	62	6.2	.285	7.186
July	67	5.4	.321	8.201	July	70	5.0	.344	7.788
August	67	5.1	.284	8.303	August	66	4.9	.425	5.907
September	55	5.3	.233	5.284	September	57	4.9	.252	4.552
Year	56.2	7.6	.242	40.655	Year	58.7	6.0	.291	34.516
1925					1931				
April	45	9.1	.161	5.798	April	41	8.2	.136	4.794
May	53	7.8	.227	5.926	May	50	8.3	.187	5.863
June	62	7.7	.294	7.469	June	67	5.2	.312	6.313
July	69	6.3	.343	9.190	July	71	5.7	.312	9.133
August	64	5.1	.348	6.071	August	67	4.5	.316	7.203
September	59	6.0	.260	6.128	September	62	6.1	.241	6.371
Year	58.7	7.0	.272	40.582	Year	59.7	6.3	.251	39.677
1926					1932				
April	43	7.8	.184	4.572	April	43	11.2	.141	5.771
May	53	7.7	.232	5.645	May	53	6.9	.228	5.502
June	61	5.8	.318	6.123	June	61			

TABLE 2—Continued

Month and year	$\Theta_s$	W	V	E.	Month and year	$\Theta_s$	W	V	E.
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## Ardmore, S.Dak.—Continued

1923	$^{\circ}F.$	M.p.h.		Inches	1928	$^{\circ}F.$	M.p.h.		Inches
April	41	5.8	.193	4.373	April	43	6.5	.143	4.958
May	54	4.9	.301	4.325	May	59	3.9	.268	5.767
June	65	3.5	.446	5.107	June	59	4.7	.329	5.696
July	74	2.8	.569	6.308	July	71	3.4	.449	7.706
August	67	2.3	.495	5.660	August	70	3.9	.343	7.802
September	60	2.9	.384	4.990	September	59	3.5	.228	5.859
Year	60.2	3.7	.398	30.853	Year	60.2	4.3	.293	37.738
1924					1929				
April	43	6.8	.257	4.002	April	45	7.3	.170	4.178
May	49	5.4	.301	4.921	May	54	6.8	.236	5.816
June	64	6.0	.379	6.337	June	65	6.1	.335	7.126
July	71	4.8	.381	8.104	July	75	5.9	.413	10.050
August	71	4.5	.331	7.221	August	75	5.1	.372	9.302
September	59	5.0	.297	4.932	September	55	5.9	.277	4.166
Year	59.5	5.4	.324	35.607	Year	61.5	6.2	.300	40.638
1925					1930				
April	50	6.4	.248	4.306	April	53	5.6	.237	5.002
May	57	5.1	.312	4.899	May	53	7.2	.264	5.561
June	65	4.5	.409	6.342	June	65	5.7	.328	8.037
July	72	4.1	.489	8.003	July	78	5.5	.357	10.802
August	72	4.0	.408	7.156	August	73	5.3	.493	7.760
September	63	3.5	.343	5.447	September	61	5.0	.323	5.975
Year	63.2	4.6	.368	36.153	Year	63.8	5.7	.334	43.137
1926					1931				
April	47	5.5	.221	4.800	April	46	7.2	.179	4.941
May	68	4.0	.355	4.851	May	55	8.0	.243	7.075
June	66	4.7	.414	6.516	June	73	7.4	.368	10.811
July	72	4.2	.480	6.991	July	77	8.4	.346	11.088
August	71	3.8	.472	6.957	August	72	7.1	.382	9.954
September	57	5.6	.263	4.590	September	67	6.6	.284	7.891
Year	61.8	4.6	.368	34.705	Year	65.0	7.4	.300	51.760
1927					1932				
April	42	5.9	.206	3.540	April	49	10.3	.204	5.474
May	53	7.7	.279	5.890	May	58	7.4	.319	5.876
June	62	3.6	.404	5.191	June	67	6.0	.373	8.399
July	68	3.5	.480	6.358	July	76	6.1	.432	10.062
August	66	3.5	.414	5.658	August	73	5.4	.414	9.112
September	59	4.1	.310	4.771	September	61	4.8	.284	6.933
Year	58.3	4.7	.349	31.408	Year	64.0	6.7	.335	45.856

## Biggs, Calif.

1920					1923				
April	58.7	4.2		4.363	April	57.1	4.2		4.425
May	66.0	3.2		4.414	May	65.5	3.6		6.707
June	72.7	4.3		7.160	June	68.2	3.7		7.227
July	75.7	3.2		7.104	July	77.2	2.7		8.866
August	77.7	1.7		6.227	August	76.0	2.2		7.275
September	69.6	2.0		4.691	September	73.3	1.9		5.672
October	58.5	2.0		2.783	October	61.7	2.4		3.870
Year:					Year:				
Apr.-Sept.	70.1	3.1		33.959	Apr.-Sept.	69.6	3.0		40.172
Apr.-Oct.	68.4	2.9		36.752	Apr.-Oct.	68.4	3.0		41.042
1921					1924				
April	57.2	3.9		5.243	April	60.0	4.1		5.205
May	62.5	3.6		5.853	May	69.5	3.8		7.431
June	74.6	3.4		7.052	June	73.6	4.3		8.250
July	80.4	3.0		9.076	July	76.5	3.1		8.408
August	75.6	2.4		7.845	August	75.0	2.4		6.435
September	70.6	2.4		4.956	September	70.8	2.4		4.752
October	63.9	1.6		2.879	October	58.8	2.7		4.311
Year:					Year:				
Apr.-Sept.	70.2	3.1		40.025	Apr.-Sept.	70.9	3.4		40.479
Apr.-Oct.	69.3	2.9		42.904	Apr.-Oct.	69.2	3.3		43.890
1922					1925				
April	55.9	4.9		4.947	April	58.3	2.7		3.897
May	66.3	3.8		5.945	May	66.3	2.9		5.255
June	73.8	3.1		6.843	June	75.0	2.8		7.228
July	79.8	1.8		6.932	July	80.0	2.5		8.082
August	74.2	1.8		6.495	August	74.6	2.8		7.313
September	74.0	.9		4.324	September	67.4	2.2		4.677
October	60.9	1.6		2.542	October	61.5	1.6		3.270
Year:					Year:				
Apr.-Sept.	70.7	2.7		35.486	Apr.-Sept.	70.3	2.6		36.452
Apr.-Oct.	69.3	2.6		38.028	Apr.-Oct.	69.0	2.5		39.722

TABLE 2—Continued

Month and year	$\Theta_s$	W	V	E.	Month and year	$\Theta_s$	W	V	E.
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## Biggs, Calif.—Continued

1926	$^{\circ}F.$	M.p.h.		Inches	1929	$^{\circ}F.$	M.p.h.		Inches
April	62.1	3.3		4.137	September	69.2	1.4		5.289
May	66.4	3.5		3.098	October	63.6	2.0		4.030
June	76.9	2.6		6.921					
July	78.6	2.0		6.113	Year:				
August	74.9	1.8		5.792	Apr.-Sept.	69.2	2.9		38.744
September	67.4	3.1		5.230	Apr.-Oct.	68.4	2.8		42.774
October	62.6	2.6		3.397					
Year:					1930				
Apr.-Sept.	71.0	2.7		34.291	April	59.4	3.3		4.273
Apr.-Oct.	69.8	2.7		37.688	May	62.2	4.4		6.239
					June	74.2	2.9		6.721
					July	76.2	2.1		7.466
					August	74.1	1.9		5.558
					September	67.1	1.9		4.720
					October	60.7	1.8		3.446
					1931				
					Year:				
					Apr.-Sept.	68.9	2.8		34.983
					Apr.-Oct.	67.7	2.6		38.429
					1932				
					Year:				
					Apr.	56.7	2.9		3.623
					May	69.6	3.7		6.751
					June	74.0	4.2		8.105
					July	78.7	2.9		6.700
					August	75.6	1.5		5.686
					September	70.3	1.7		4.335
					October	61.0	1.9		3.313
					1933				
					Year:				
					Apr.	54.3	3.0		3.039
					May	66.5	3.7		7.021
					June	72.3	3.4		6.455
					July	76.3	2.9		8.717
					August	76.6	2.1		7.323
					1929				
					Year:				
					Apr.	62	7.0		2.299
					May	71	4.8		4.422
					June	76	4.2		5.452
					July	82	5.2		6.930
					August	82	3.3		5.048
					September	79	3.7		6.498
					October	69.6	2.8		4.021
					1932				
					Year:				
					Apr.	56.2	4.0		4.512
					May	65.4	4.3		6.064
					June	73.7	2.9		5.498
					July	75.8	2.4		6.498
					August	74.5	2.0		5.251
					September	72.3	0.9		4.890
					October	59.5	2.7		4.215
					1921				
					Year:				
					Apr.	61	7.4		0.226
					May	73	5.8		4.406
					June	73	4.8		9.110
					July	83	4.6		6.523
					August	84	4.4		12.839
					September	80	4.9		8.815
					October	75	4.1		

TABLE 2—Continued

Month and year	$\Theta_a$	W	V	E <sub>o</sub>	Month and year	$\Theta_a$	W	V	E <sub>o</sub>
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## Big Springs, Tex.—Continued

1929	$^{\circ}F.$	M.p.h.	Inches	1931		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	66	5.9	.312	7.334	59	5.3	.293	5.609	
May	69	5.1	.425	7.220	68	4.8	.393	7.554	
June	82	5.2	.515	10.693	81	5.4	.540	9.470	
July	81	3.7	.604	9.277	82	4.1	.556	9.549	
August	83	2.8	.546	10.098	81	4.2	.501	9.551	
September	74	3.3	.547	6.861	82	5.3	.505	9.210	
Year	75.8	4.3	.492	51.483	Year	75.5	4.8	.465	56.943

  

1930	$^{\circ}F.$	M.p.h.	Inches	1932		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	69	4.9	.321	6.061	65	5.9	.304	7.496	
May	71	4.8	.409	8.119	69	5.1	.472	6.511	
June	78	4.7	.585	8.712	77	4.0	.612	7.896	
July	84	4.4	.557	11.651	82	4.2	.612	9.734	
August	82	3.1	.555	10.223	79	3.7	.619	8.034	
September	78	3.7	.475	9.181	69	2.4	.575	3.946	
Year	77.0	4.3	.484	53.949	Year	73.5	4.2	.532	43.617

## Chillicothe, Tex.

1920	$^{\circ}F.$	M.p.h.	Inches	1926		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	58	11.7	—	10.171	56.50	8.36	—	4.971	
May	70	8.0	—	8.254	71.48	7.54	—	7.131	
June	78	7.9	—	9.513	79.02	6.19	—	8.247	
July	83	5.5	—	5.936	81.45	3.01	—	6.766	
August	76	4.4	—	6.642	80.60	3.56	—	6.159	
September	73	4.9	—	4.853	74.43	5.12	—	4.558	
Year	73.0	7.1	—	45.369	Year	73.91	5.78	—	37.832

  

1921	$^{\circ}F.$	M.p.h.	Inches	1927		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	61.1	10.30	—	7.774	67.23	8.20	—	6.655	
May	72.7	9.04	—	8.203	76.95	9.15	—	8.893	
June	77.4	6.36	—	9.362	78.82	7.18	—	7.628	
July	83.6	6.05	—	9.204	81.92	4.95	—	7.620	
August	84.8	5.16	—	10.141	81.47	4.47	—	7.002	
September	79.8	6.09	—	8.496	75.60	5.10	—	5.077	
Year	76.6	7.17	—	53.172	Year	77.00	6.51	—	42.865

  

1922	$^{\circ}F.$	M.p.h.	Inches	1928		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	60	8.03	—	5.887	61.1	9.74	—	7.208	
May	71	7.58	—	7.207	72.1	6.84	—	8.023	
June	80	6.09	—	8.441	79.5	9.60	—	8.213	
July	83	6.04	—	10.162	83.7	5.80	—	7.542	
August	85	5.08	—	10.457	82.2	4.44	—	6.544	
September	76	4.73	—	8.087	75.3	4.98	—	5.933	
Year	75.8	6.27	—	50.091	Year	75.6	6.90	—	43.463

  

1923	$^{\circ}F.$	M.p.h.	Inches	1929		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	61	8.2	—	5.220	59	7.0	—	6.499	
May	69	5.2	—	5.077	72	6.9	—	6.359	
June	78	5.2	—	6.033	75	6.9	—	6.556	
July	81	4.2	—	5.934	78	4.8	—	5.859	
August	74	4.2	—	5.884	71	4.0	—	5.887	
September	64	4.2	—	5.844	64	5.3	—	5.770	
Year	66.7	6.3	—	43.306	Year	63.5	6.6	—	40.551

## Colby, Kans.

1921	$^{\circ}F.$	M.p.h.	Inches	1922		$^{\circ}F.$	M.p.h.	Inches	
				April	May	June	July	August	September
April	49	9.2	0.202	5.277	48	9.0	.228	3.535	
May	61	9.6	.355	7.030	59	7.0	.315	6.499	
June	69	5.2	.507	6.033	72	6.9	.455	8.359	
July	76	5.7	.544	8.720	75	6.0	.465	9.057	
August	74	4.2	.563	6.409	77	5.3	.483	8.295	
September	67	4.9	.428	5.894	69	6.2	.310	6.840	
Year	66.0	6.5	.433	39.363	Year	66.7	6.7	.376	42.585

TABLE 2—Continued

Month and year	$\Theta_a$	W	V	E <sub>o</sub>	Month and year	$\Theta_a$	W	V	E <sub>o</sub>
Colby, Kans.—Continued									
1923	$^{\circ}F.$	M.p.h.	Inches		1923	$^{\circ}F.$	M.p.h.	Inches	
April	49	8.4	.205	5.431	April	47	8.7	1.181	6.118
May	56	8.2	.342	5.250	May	61	6.6	.343	5.948
June	68	7.5	.545	6.609	June	62	6.4	.439	5.228
July	74	4.5	.556	7.341	July	74	5.4	.667	7.364
August	71	4.0	.523	8.887	August	73	6.7	.452	8.770
September	64	5.3	.351	5.844	September	64	5.7	.290	7.153
Year	63.7	6.3	.420	37.371	Year	63.5	6.6	.379	40.551
1924									
1924	$^{\circ}F.$	M.p.h.	Inches		1924	$^{\circ}F.$	M.p.h.	Inches	
April	50	8.1	.188	5.610	April	48	9.1	.226	5.804
May	54	7.0	.208	6.712	May	53	8.6	.337	5.102
June	70	7.3	.461	7.871	June	69	6.1	.429	7.049
July	74	8.0	.440	10.194	July	79	6.8	.484	9.982
August	75	7.2	.480	8.637	August	77	5.3	.496	8.217
September	61	7.6	.336	6.282	September	61	7.4	.397	5.782
Year	64.0	7.5	.352	45.306	Year	65.8	7.2	.392	41.936
1925									
1925	$^{\circ}F.$	M.p.h.	Inches		1925	$^{\circ}F.$	M.p.h.	Inches	
April	54	8.8	.230	6.142	April	54	7.8	.308	4.820
May	60	7.5	.328	6.697	May	57	8.5	.345	5.546
June	75	9.1	.400	10.395	June	69	5.7	.463	7.633
July	77	6.3	.423	10.892	July	78	5.5	.448	9.502
August	74	7.0	.485	8.471	August	76	4.9	.532	7.540
September	67	7.1	.403	6.371	September	66	4.4	.375	5.036

TABLE 2—Continued

Month and year	$\Theta_a$	W	V	$E_o$	Month and year	$\Theta_a$	W	V	$E_o$
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Crowley, La.; lat.  $30^{\circ}15'$ ; elevation 21 feet—Continued

1926	$^{\circ}F.$	M.p.h.	Inches	1929	$^{\circ}F.$	M.p.h.	Inches
April	66	3.2	3.981	April	72	6.5	5.036
May	73	2.5	4.357	May	75	4.9	5.612
June	81	1.9	6.373	June	81	2.2	5.894
July	82	1.6	5.531	July	81	2.2	5.530
August	82	1.9	4.958	August	82	2.1	6.297
September	82	1.8	5.238	September	78	2.4	5.443
October	74	2.0	3.643	October	70	3.0	4.725
Year:				Year:			
Apr.-Sept.	77.7	2.2	30.438	Apr.-Sept.	78.2	3.4	33.812
Apr.-Oct.	77.1	2.1	34.081	Apr.-Oct.	77.0	3.3	38.537

  

1927	$^{\circ}F.$	M.p.h.	Inches	1930	$^{\circ}F.$	M.p.h.	Inches
April	72	3.7	4.238	April	70	4.0	4.487
May	78	3.8	4.791	May	76	4.9	5.298
June	84	1.6	5.291	June	80	2.7	7.375
July	82	.7	3.937	July	83	2.3	5.662
August	81	.9	4.961	August	82	2.3	6.285
September	79	1.0	4.676	September	78	2.4	4.212
October	72	1.5	4.042	October	68	2.8	3.738
Year:				Year:			
Apr.-Sept.	79.3	2.0	27.894	Apr.-Sept.	78.2	3.1	33.319
Apr.-Oct.	78.3	2.0	31.036	Apr.-Oct.	76.7	3.1	37.057

  

1928	$^{\circ}F.$	M.p.h.	Inches	1931	$^{\circ}F.$	M.p.h.	Inches
April	64	5.8	4.852	April	65	3.8	3.322
May	73	3.3	6.131	May	72	3.6	6.774
June	80	3.7	5.827	Juno	81	2.6	5.882
July	82	1.4	5.056	July	83	2.9	6.550
August	83	1.6	5.378	August	80	1.8	5.044
September	75	2.3	4.083	September	80	1.7	5.760
October	73	2.1	4.482	October	73	2.3	4.546
Year:				Year:			
Apr.-Sept.	76.2	3.0	31.927	Apr.-Sept.	76.8	2.7	33.332
Apr.-Oct.	75.7	2.9	36.409	Apr.-Oct.	76.3	2.7	37.878

Dalhart, Tex.; lat.  $36^{\circ}20'$ ; elevation 4,000 feet

1921	$^{\circ}F.$	M.p.h.	Inches	1926	$^{\circ}F.$	M.p.h.	Inches
April	52	8.9	0.168	April	48	7.2	.255
May	64	8.3	.339	May	62	6.4	.373
June	69	6.3	.468	June	70	4.7	.454
July	74	4.7	.533	July	75	4.4	.459
August	75	4.2	.479	August	78	3.9	.435
September	71	6.5	.371	September	68	6.2	.479
Year	67.5	6.5	.393	Year	66.5	5.5	.400

  

1922	$^{\circ}F.$	M.p.h.	Inches	1927	$^{\circ}F.$	M.p.h.	Inches
April	53	8.0	.221	April	57	7.7	.286
May	62	6.7	.296	May	68	7.1	.326
June	73	5.3	.448	June	71	6.7	.499
July	78	5.8	.441	July	76	4.8	.595
August	80	4.8	.426	August	72	3.9	.559
September	72	5.6	.357	September	66	5.1	.463
Year	69.7	6.0	.365	Year	68.3	5.9	.455

  

1923	$^{\circ}F.$	M.p.h.	Inches	1928	$^{\circ}F.$	M.p.h.	Inches
April	53	8.0	.221	April	57	7.7	.266
May	62	6.7	.296	May	68	7.1	.326
June	73	5.3	.448	June	71	6.7	.499
July	78	5.8	.441	July	76	4.8	.595
August	80	4.8	.426	August	72	3.9	.559
September	72	5.6	.357	September	66	5.1	.463
Year	69.7	6.0	.365	Year	68.3	5.9	.455

  

1924	$^{\circ}F.$	M.p.h.	Inches	1930	$^{\circ}F.$	M.p.h.	Inches
April	53	8.0	.221	April	57	7.7	.286
May	62	6.7	.296	May	68	7.1	.326
June	73	5.3	.448	June	71	6.7	.499
July	78	5.8	.441	July	76	4.8	.595
August	80	4.8	.426	August	72	3.9	.559
September	72	5.6	.357	September	66	5.1	.463
Year	69.7	6.0	.365	Year	68.3	5.9	.455

  

1925	$^{\circ}F.$	M.p.h.	Inches	1928	$^{\circ}F.$	M.p.h.	Inches
April	54	8.2	.254	April	51	8.9	.212
May	62	8.2	.331	May	63	6.6	.356
June	71	6.6	.460	June	69	6.3	.452
July	77	4.3	.485	July	77	4.6	.504
August	75	4.2	.501	August	73	4.5	.520
September	66	4.3	.398	September	67	4.8	.348
Year	69.7	6.0	.365	Year	68.3	5.9	.455

  

1926	$^{\circ}F.$	M.p.h.	Inches	1929	$^{\circ}F.$	M.p.h.	Inches
April	54	8.2	.254	April	55	8.9	.210
May	62	8.2	.331	May	60	8.8	.316
June	71	6.6	.460	June	72	6.8	.417
July	77	4.3	.485	July	76	5.5	.539
August	75	4.2	.501	August	75	3.8	.516
September	66	4.3	.398	September	65	6.0	.396
Year	69.8	5.8	.364	Year	67.2	6.5	.399

  

1927	$^{\circ}F.$	M.p.h.	Inches	1930	$^{\circ}F.$	M.p.h.	Inches
April	55	8.2	.254	April	59	6.4	.259
May	63	8.3	.349	May	62	7.9	.284
June	72	6.1	.419	June	73	6.8	.424
July	78	4.8	.532	July	77	5.7	.462
August	72	3.4	.570	August	76	4.7	.485
September	68	4.4	.533	September	69	5.1	.337
Year	69.3	5.4	.434	Year	69.3	6.1	.375

Crowley, La.; lat.  $30^{\circ}15'$ ; elevation 21 feet—Continued

Month and year	$\Theta_a$	W	V	$E_o$	Month and year	$\Theta_a$	W	V	$E_o$
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Dalhart, Tex.; lat.  $36^{\circ}20'$ ; elevation 4,000 feet—Continued

1931	$^{\circ}F.$	M.p.h.	Inches	1932	$^{\circ}F.$	M.p.h.	Inches
April	51	8.2	0.231	April	55	8.5	0.193
May	60	7.2	.291	May	65	6.5	.230
June	75	5.4	.404	June	70	5.1	.451
July	77	5.1	.463	July	78	4.6	.462
August	73	3.8	.473	August	76	4.2	.465
September	73	5.0	.385	September	66	4.9	.354
Year	68.2	5.8	.374	Year	68.3	5.6	.369

## Dickinson, N.Dak.

Dickinson, N.Dak.; lat.  $47^{\circ}00'$ ; elevation 2,513 feet

1921	$^{\circ}F.$	M.p.h.	Inches	1927	$^{\circ}F.$	M.p.h.	Inches
April	39	7.5	0.154	April	41	8.2	0.215
May	52	7.4	0.270	May	48	9.5	0.274
June	69	6.0	0.489	June	61	4.5	0.435
July	71	5.6	0.427	July	65	5.5	0.445
August	67	5.5	0.393	August	63	3.8	0.448
September	54	7.4	0.274	September	56	5.5	0.364
Year	58.7	6.6	.334	Year	55.7	6.2	.369

1922	$^{\circ}F.$	M.p.h.	Inches	1928	$^{\circ}F.$	M.p.h.

TABLE 2—Continued

Month and year	$\Theta_a$	W	V	E.	Month and year	$\Theta_a$	W	V	E.
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## Garden City, Kans.—Continued

1923	$\circ F.$	M.p.h.	Inches	1928		$\circ F.$	M.p.h.	Inches	1929											
				April	May	June	July	August	September											
April	54	10.6	0.239	6.810	50	12.1	0.203	7.426	39	7.1	0.167	3.933	April	45	7.7	0.156	5.655			
May	60	10.6	.381	6.736	52	8.5	.393	7.911	51	6.1	.233	5.310	May	55	6.5	.201	7.553			
June	71	10.5	.554	8.027	66	8.9	.516	7.272	61	5.4	.320	6.039	June	66	6.4	.308	9.147			
July	78	7.3	.584	10.466	77	7.0	.596	9.902	71	4.2	.281	8.685	July	68	5.3	.334	8.612			
August	76	5.8	.542	9.090	75	6.7	.527	10.053	70	3.8	.287	7.111	August	67	4.2	.337	7.490			
September	67	6.6	.439	6.775	68	6.1	.328	8.316	51	3.7	.227	3.615	September	58	5.2	.261	5.464			
Year	67.7	8.6	.456	47.904	Year	66.3	8.2	.427	50.970	Year	57.2	5.0	.252	34.693	Year	59.6	5.9	.266	43.921	
1924					1929					1930					1931					
April	52	10.1	.225	5.725	April	55	10.5	.249	6.866	April	51	7.2	.223	4.797	April	46	8.4	.189	4.272	
May	57	8.2	.250	7.142	May	60	10.1	.385	6.340	May	53	7.2	.241	6.280	May	56	7.7	.269	6.533	
June	72	9.0	.481	10.458	June	73	8.3	.448	10.128	June	62	7.0	.276	7.942	June	62	4.9	.401	6.144	
July	76	9.1	.531	10.993	July	80	7.5	.536	12.054	July	72	5.4	.328	9.671	July	69	5.4	.358	8.531	
August	78	8.2	.530	10.843	August	78	6.1	.572	10.191	August	71	5.3	.344	8.491	August	67	5.8	.348	7.346	
September	65	8.0	.380	8.165	September	66	9.0	.396	8.312	September	56	5.2	.283	4.092	September	57	6.0	.237	4.983	
Year	66.7	8.8	.400	53.326	Year	68.5	8.6	.431	53.891	Year	60.8	6.2	.282	41.273	Year	59.5	6.4	.300	37.809	
1925					1930					1931					Hays, Kans.					
April	57	10.4	.282	7.369	April	58	9.0	.349	7.055	1921					1927					
May	64	9.0	.366	8.244	May	61	10.1	.339	8.710	April	54	10.6	0.263	6.174	April	55	8.0	0.315	4.559	
June	78	10.2	.469	12.412	June	74	9.2	.446	11.284	May	65	8.3	.432	7.252	May	64	11.0	.370	7.809	
July	80	7.3	.506	12.316	July	81	8.7	.453	13.913	June	73	5.3	.619	6.043	June	70	8.6	.490	7.660	
August	77	7.9	.491	10.900	August	79	7.2	.485	11.883	July	79	6.1	.665	8.671	July	77	6.2	.533	9.261	
September	70	8.3	.439	7.513	September	70	6.4	.420	8.917	August	77	5.4	.585	8.188	August	71	5.4	.566	6.270	
Year	71.0	8.8	.426	58.754	Year	70.5	8.4	.415	61.562	September	73	8.2	.546	8.229	September	69	6.7	.444	6.963	
1926					1931					Year	70.2	7.3	.518	44.557	Year	67.7	7.6	.453	42.522	
April	48	8.6	.233	5.828	April	51	9.9	.262	4.932	1922					1928					
May	64	9.3	.391	8.254	May	59	9.0	.325	7.548	April	53	10.1	.326	4.388	April	49	10.0	.192	6.407	
June	73	8.5	.496	10.252	June	79	9.8	.457	12.527	May	63	7.9	.470	5.912	May	63	7.6	.414	6.454	
July	78	7.8	.535	12.168	July	79	7.8	.474	12.417	June	74	6.7	.584	7.931	June	65	7.3	.480	4.965	
August	78	6.5	.595	11.165	August	76	7.0	.484	10.345	July	77	7.1	.628	8.258	July	77	6.6	.654	8.002	
September	68	9.5	.504	8.245	September	77	9.4	.380	10.946	August	81	6.2	.592	10.531	August	76	6.4	.589	8.159	
Year	68.2	8.4	.459	55.912	Year	70.2	8.8	.397	58.715	September	74	8.8	.464	10.300	September	67	7.3	.332	8.321	
1927					1932					Year	70.3	7.8	.511	47.320	Year	66.2	7.5	.445	42.308	
April	56	10.1	.288	6.137	April	56	11.4	.236	7.026	1923					1929					
May	66	11.4	.345	11.232	May	66	9.0	.355	9.181	April	53	11.3	.267	5.997	April	55	10.2	.279	5.584	
June	71	10.7	.463	10.304	June	71	7.7	.510	8.119	May	60	8.6	.421	5.578	May	60	8.8	.374	5.320	
July	78	8.5	.507	12.160	July	83	9.8	.535	13.450	June	72	7.4	.616	6.583	June	72	7.6	.508	7.968	
August	72	6.6	.572	7.856	August	78	9.8	.526	11.462	July	80	7.1	.646	9.823	July	79	7.0	.600	9.340	
September	70	8.6	.440	8.909	September	68	7.9	.384	7.363	August	77	6.2	.566	8.584	August	79	6.3	.548	8.482	
Year	68.8	9.3	.436	56.598	Year	70.3	9.3	.421	56.601	September	69	7.2	.466	6.238	September	65	8.6	.400	7.043	
1928					Year					Year	68.5	8.0	.497	42.803	Year	68.3	8.1	.452	43.737	
1929					1930					1924					1931					
April	42	7.6	.167	4.054	April	47	6.7	.223	3.300	April	53	9.7	.267	5.483	April	57			5.662	
May	53	6.9	.257	5.294	May	56	6.4	.231	6.622	May	57	7.8	.307	6.782	May	61			6.683	
June	66	5.0	.353	7.024	June	63	4.1	.388	4.961	June	73	7.0	.551	7.738	June	71			8.047	
July	69	5.5	.364	8.734	July	68	4.5	.358	7.078	July	76	7.6	.572	10.835	July	81			9.800	
August	68	4.7	.303	8.306	August	65	3.9	.309	5.446	August	80	7.5	.596	10.325	August	80	6.7	.574	9.801	
September	52	6.8	.222	4.890	September	54	4.2	.284	3.222	September	65	7.8	.406	7.459	September	69	5.9	.466	6.379	
Year	58.3	6.1	.278	38.302	Year	58.8	5.0	.299	30.620	Year	67.3	7.9	.450	48.622	Year	69.8	7.9	.479	10.453	46.372
1922					1926					1925					1931					
April	42	6.3	.186	2.783	April	46	6.7	.161	5.155	April	58	9.5	.330	6.002	April	51	8.4	.277	4.718	
May	53	7.4	.249	5.325	May	57	6.8	.224	6.904	May	62	7.8	.377	6.784	May	59	8.7	.364	6.575	
June	65	5.5	.341	6.936	June	63	5.8	.291	7.035	June	78	10.6	.532	11.633	June	78	7.9	.556	9.517	
July	67	4.3	.352	6.965	July	72	4.3	.360	8.652	July	79	6.2	.579	9.487	July	80	6.8	.535	10.267	
August	70	5.5	.360	7.229	August	65	5.4	.357	6.117	August	76	5.6	.611	7.925	August	76	6.6	.523	9.560	
September	60	5.9	.250	5.152	September	46	4.6	.256	2.215	September	71	7.2	.556	6.978	September	79	9.6	.418	11.634	
Year	59.5	5.8	.290	34.390	Year	58.2	5.6	.276	36.078	Year	70.7	7.8	.498	48.809	Year	70.5	8.0	.446	52.271	
1923					1927					1926					1932					
April	42	7.0	.139	4.628	April	41	8.0	.167	4.483	April	48	8.2	.263	5.501	April	55	10.8	.280	5.811	
May	54	6.7	.224	6.648	May	47	7.3	.246	3.860	May	65	8.8	.449	7.357	May	64	7.7	.415	7.119	
June	63	6.0	.370	6.333	June	60	4.5	.374	5.489	June	73	7.7	.471	9.382	June	72	5.3	.619	6.693	
July	69	4.0	.528	5.827	July	67	3.5	.435	6.188	July	80	6.9	.511	11.108	July	83	7.5	.599	9.511	
August	64	3.6	.378	4.945	August	65	3.8	.375	4.632	August	68	10.2	.472	7.227	August	67	6.3	.433	6.151	
September	57	3.8	.274	4.124	September	54	4.0	.280	3.138	September	60.0	8.3	.454	52.034	September	60.8	7.5	.495	46.314	
Year	58.2	5.2	.319	32.505	Year	55.7	5.3	.313	27.790	Year					Hettinger, N.Dak.					
1924					1928					1921					1921					
April	42	7.8	.174	4.028	April	40	7.4	.156	3.507	April	42	7.0	.183	3.710	April	51	5.1	.417	7.316	
May	53	5.8	.271	5.867	May	60	5.9	.237	6.737	May	53	6.7	.282	4.216	May	56	6.6	.327	4.168	
June	58	5.2	.338	5.272	June	58	5.6	.320	4.504											

TABLE 2—Continued

Month and year	$\Theta_s$	W	V	E.	Month and year	$\Theta_s$	W	V	E.
Lawton, Okla.									
1921	<sup>o</sup> F.	M.p.h.	Inches		1927	<sup>o</sup> F.	M.p.h.	Inch	
April	59	8.1	0.328	5.205	April	64	6.7	11.344	5.061
May	71	6.1	.506	6.412	May	73	7.1	12.501	7.882
June	77	4.6	.710	5.139	June	76	4.8	.620	7.572
July	81	4.3	.736	7.045	July	80	3.7	.648	7.886
August	83	4.4	.660	8.101	August	79	4.2	.657	7.643
September	80	5.8	.657	6.851	September	74	5.4	.551	6.185
Year	75.2	5.5	.600	38.753	Year	74.3	5.3	.554	42.229
1922					1928				
April	61	7.8	.402	4.418	April	58	9.0		5.111
May	69	5.5	.545	4.615	May	70	5.9		6.151
June	78	3.9	.616	6.533	June	75	6.6		6.324
July	82	4.8	.620	8.580	July	81	4.1		7.604
August	84	4.1	.581	8.781	August	81	3.6		7.973
September	76	3.6	.598	6.628	September	73	4.0		7.521
Year	75.0	5.0	.560	39.563	Year	73.0	5.5	<sup>14</sup> 554	40.684
1923					1929				
April	61	7.6	<sup>12</sup> 344	4.670	April	65	8.0		5.414
May	68	6.9	<sup>12</sup> 501	6.492	May	66	7.4		5.834
June	77	5.2	<sup>14</sup> 650	7.098	June	78	6.1		8.476
July	84	3.3	.634	8.665	July	81	4.1		8.549
August	83	4.6	.582	9.952	August	84	3.9		10.290
September	74	4.0	.603	5.358	September	72	3.4		5.001
Year	74.5	5.3	.552	42.233	Year	74.3	5.5	<sup>14</sup> 554	43.543
1924					1930				
April	59	6.2	<sup>12</sup> 344	5.100	April	67	7.4		6.254
May	64	5.2	<sup>12</sup> 501	6.099	May	68	6.4		5.508
June	82	6.3	.666	9.067	June	78	6.2		7.747
July	80	4.6	.618	8.086	July	83	4.3		10.466
August	84	5.3	.662	8.716	August	84	3.4		10.097
September	70	4.4	.455	6.392	September	78	4.7		8.052
Year	73.2	5.3	.541	43.520	Year	76.3	5.4	<sup>14</sup> 554	48.124
1925					1931				
April	67	7.5	<sup>12</sup> 344	6.979	April	56	7.1	.435	4.013
May	68	5.1	<sup>12</sup> 501	6.014	May	65	7.2	.556	6.129
June	83	5.9	<sup>14</sup> 650	10.364	June	81	6.4	.786	9.222
July	85	5.5	.660	11.564	July	83	5.0	.848	9.437
August	80	3.3	.628	7.819	August	80	4.6	.764	7.618
September	76	3.8	.607	6.152	September	81	5.7	.764	9.213
Year	76.5	5.2	.566	48.692	Year	74.3	6.0	.692	45.632
1926					1932				
April	56	6.8	<sup>12</sup> 344	4.671	April	63	8.4	<sup>12</sup> 344	5.989
May	69	5.3	.494	6.353	May	70	6.1	.491	7.178
June	78	5.1	.581	9.011	June	78	5.2	.701	6.977
July	80	4.2	.635	8.739	July	83	4.4	.718	9.196
August	81	3.9	.663	8.242	August	81	5.3	.692	8.476
September	74	4.4	.607	5.625	September	73	4.0	.600	5.297
Year	73.0	5.0	.554	42.641	Year	74.6	5.6	.591	43.113

## Mandan, N.Dak.

1921					1924				
April	43	6.3	.0.170	3.638	April	41	8.3	0.173	3.410
May	55	6.3	.291	5.147	May	49	7.7	.180	4.900
June	71	5.6	.494	7.324	June	59	5.2	.372	4.467
July	74	4.7	.452	8.899	July	67	4.8	.423	6.822
August	71	5.4	.398	8.524	August	65	5.1	.380	6.054
September	59	7.1	.279	5.730	September	57	5.6	.283	4.146
Year	62.2	5.9	.347	39.262	Year	56.3	6.1	.302	29.799
1922					1925				
April	45	6.4	.214	3.379	April	50	7.9	.210	4.297
May	58	7.2	.323	5.337	May	55	6.7	.239	5.834
June	66	4.3	.456	5.638	June	62	6.7	.402	5.527
July	68	3.8	.477	6.740	July	68	4.8	.426	6.462
August	73	4.7	.472	7.935	August	69	5.1	.391	6.230
September	61	4.5	.335	4.826	September	59	5.2	.345	3.695
Year	61.8	5.2	.380	33.855	Year	60.5	6.1	.336	32.054
1923					1926				
April	41	5.7	.182	3.166	April	45	7.6	.139	4.852
May	57	6.9	.280	5.696	May	59	6.7	.275	5.631
June	67	6.8	.433	7.340	June	63	7.1	.308	6.697
July	73	5.1	.560	7.245	July	72	5.7	.391	8.148
August	65	4.4	.396	5.584	August	67	5.3	.404	5.438
September	60	6.2	.320	4.505	September	53	6.3	.293	3.701
Year	60.5	5.8	.363	33.536	Year	59.8	6.4	.302	34.467

<sup>12</sup> Average, 1917-32, inclusive (7-years' data).<sup>13</sup> Average, 1917-32, inclusive (9 years).

TABLE 2—Continued

Month and year	$\Theta_s$	W	V	E.	Month and year	$\Theta_s$	W	V	E.
Mandan, N.Dak.—Continued									
1927	<sup>o</sup> F.	M.p.h.	Inches		1930	<sup>o</sup> F.	M.p.h.	Inches	
April	43	8.4	0.195		April	49	6.7	0.210	3.690
May	49	9.2	.262		May	51	8.2	.238	5.290
June	62	4.9	.416		June	64	6.6	.369	6.143
July	66	4.3	.456		July	75	4.4	.422	8.324
August	66	4.2	.433		August	70	4.4	.428	6.314
September	57	5.6	.338		September	57	5.2	.288	4.652
Year	57.2	6.1	.350		Year	61.0	5.9	.326	34.413
1928					1931				
April	38	7.5	.138		April	45	7.0	.151	4.016
May	60	6.1	.253		May	54	7.6	.207	5.794
June	59	5.2	.363		June	69	5.9	.436	6.436
July	68	3.7	.535		July	71	5.4	.443	7.467
August	66	4.3	.455		August	67	5.3	.433	5.592
September	55	5.1	.261		September	63	5.3	.328	5.153
Year	57.3	5.3	.334		Year	61.5	6.1	.333	34.458
1929					1932				
April	43	6.4	.174		April	46	7.7	.217	2.737
May	51	7.1	.227		May	56	6.3	.287	4.584
June	62	5.6	.346		June	67	5.4	.478	6.087
July	73	4.5	.395		July	71	5.0	.451	7.216
August	71	4.5	.353		August	69	5.1	.394	6.372
September	62	5.0	.265		September	58	5.1	.231	5.338
Year	58.7	5.5	.293		Year	61.2	5.8	.343	32.334
1930					1933				
April	40	10.2	0.129		April	43	6.8	0.160	4.606
May	49	8.3	.223		May	52	6.9	.230	5.069
June	61	5.4	.346		June	65	6.8	.280	6.364
July	64	5.0	.341		July	66	5.1	.358	7.316
August	66	5.3	.261		August	62	6.4	.324	6.309
September	49	7.2	.190		September	45	5.8	.233	3.442
Year	54.7	6.9	.248		Year	54.5	6.3	.266	33.126
1931					1937				
April	38	8.3	.161		April	38	7.9	.157	3.799
May	49	9.8	.199		May	43	7.5	.197	4.300
June	61	5.5	.355		June	57	5.7	.318	4.330
July	63	4.4	.336		July	63	4.9	.408	7.112
August	68	4.9	.354		August	61	4.6	.346	5.558
September	60	5.6	.265		September	52	5.7	.278	4.097
Year	56.5	6.4	.278		Year	52.3	6.0	.284	29.196
1932					1938				
April	40	7.1	.141		April	37	8.2	.158	4.580
May	51	6.7	.221		May	55	7.0	.218	6.876
June	58	5.5	.324		June	54	6.3	.270	7.598
July	66	4.0	.452		July	63	4.9	.402	7.132
August	61	3.5	.360		August	61	4.6	.276	6.045
September	56	4.1	.248		September	54	5.8	.241	5.155
Year	55.3	5.2	.291		Year	54.0	6.1	.261	37.386
1933					1939				
April	38	7.9	.164		April	38	7.0	.145	3.649
May	49	6.7	.205		May	49	7.5	.204	5.288
June	53	5.7	.301		June	56	6.1	.294	5.774
July	63	4.7	.315		July	68	5.7	.277	9.096
August	61	4.9	.266		August	69	5.7	.294	7.853
September	54	6.3	.						

TABLE 2—Continued

Month and year	$\Theta_a$	W	V	$E_o$	Month and year	$\Theta_a$	W	V	$E_o$
Moccasin, Mont.—Continued									
1931	° F.	M.p.h.	Inches		1932	° F.	M.p.h.	Inches	
April	42	8.3	0.142	4.279	April	43	8.2	0.160	4.210
May	52	7.4	.196	5.481	May	53	6.7	.243	5.275
June	62	6.3	.307	6.941	June	58	5.0	.330	5.188
July	67	5.8	.312	8.741	July	68	5.2	.330	7.690
August	66	5.4	.319	7.672	August	65	5.7	.318	7.723
September	56	5.8	.252	5.046	September	56	6.5	.225	5.416
Year	57.5	6.5	.255	38.160	Year	56.8	6.2	.268	35.502

Moro, Oreg.

1920	1926					1927				
April	44.8	8.1	4.39	April	53.8	5.3	4.86	April	50	8.4
May	51.7	9.0	7.67	May	54.3	6.0	5.79	May	60	10.8
June	59.9	8.2	7.46	June	67.0	9.0	10.29	June	71	6.7
July	69.4	8.9	10.62	July	71.0	11.3	13.12	July	77	7.2
August	68.3	6.6	7.67	August	67.5	8.1	8.83	August	73	5.2
September	57.9	6.0	4.39	September	55.3	6.4	5.56	September	65	4.3
October	46.8	5.5	2.70	October	50.7	4.7	2.45	Year	65.8	7.0
Year:				Year:				Year	65.8	7.0
Apr.-Sept.	58.7	7.8	42.20	Apr.-Sept.	61.5	7.7	48.45	Apr.-Sept.	45	10.3
Apr.-Oct.	57.0	7.5	44.90	Apr.-Oct.	59.9	7.3	50.90	May	61	7.2
1921	1927					1928				
April	45.4	7.2	4.20	April	46.5	8.0	5.23	April	45	10.3
May	55.0	5.8	5.70	May	51.7	8.8	5.71	May	61	3.31
June	63.5	4.3	7.58	June	62.0	6.4	7.0	June	61	5.9
July	65.9	8.0	10.42	July	68.8	5.9	10.00	July	73	5.1
August	67.5	7.9	9.05	August	67.9	5.6	8.89	August	72	5.6
September	55.5	6.4	5.23	September	57.1	6.4	3.51	September	61	5.2
October	51.1	3.8	2.88	October	50.4	4.4	2.19	Year	66.2	6.6
Year:				Year:				Year	66.2	6.6
Apr.-Sept.	58.8	6.6	42.18	Apr.-Sept.	59.0	6.8	40.44	Apr.-Sept.	50	8.5
Apr.-Oct.	57.7	6.2	45.06	Apr.-Oct.	57.8	6.5	42.63	May	56	8.9
1922	1928					1929				
April	44.4	9.5	3.79	April	45.0	7.5	3.91	April	47	6.6
May	52.9	8.6	7.09	May	58.9	7.5	7.33	May	56	5.75
June	65.7	9.5	10.50	June	60.7	11.6	8.82	June	67	6.1
July	67.9	9.6	11.69	July	70.2	9.6	11.34	July	74	4.9
August	65.4	8.3	7.96	August	67.4	9.5	8.89	August	69	4.3
September	62.1	6.4	6.10	September	58.8	7.0	5.13	September	63	5.4
October	51.7	4.8	2.36	October	50.1	5.8	3.13	Year	62.6	6.3
Year:				Year:				Year	62.6	6.3
Apr.-Sept.	59.7	8.6	47.13	Apr.-Sept.	60.2	8.8	45.41	Apr.-Sept.	49	9.1
Apr.-Oct.	58.6	8.1	49.49	Apr.-Oct.	58.7	8.4	48.54	May	52	5.672
1923	1929					1930				
April	47.9	7.6	4.53	April	46.2	9.6	4.18	April	54	8.3
May	53.5	8.3	6.07	May	55.8	9.6	6.96	May	56	9.0
June	59.3	6.4	6.53	June	61.6	7.7	7.00	June	66	6.7
July	69.2	6.3	0.37	July	70.0	9.3	10.00	July	72	6.9
August	69.7	6.8	10.27	August	71.1	9.9	9.45	August	73	6.2
September	61.5	5.6	5.73	September	58.5	6.3	5.86	September	73	6.0
October	48.8	4.8	2.43	October	52.5	5.7	3.40	Year	66.0	7.2
Year:				Year:				Year	66.0	7.2
Apr.-Sept.	60.2	6.8	42.50	Apr.-Sept.	60.5	8.7	43.45	Apr.-Sept.	404	41.512
Apr.-Oct.	58.6	6.5	44.93	Apr.-Oct.	59.4	8.3	46.85	May	57	4.29
1924	1930					1931				
April	48.8	9.0	5.56	April	51.8	7.5	4.26	April	49	6.9
May	60.4	9.1	8.49	May	53.3	12.0	7.24	May	57	8.3
June	63.5	7.9	9.91	June	59.3	11.2	7.92	June	67	6.286
July	65.6	11.0	11.59	July	69.9	11.4	10.91	July	75	5.532
August	66.2	7.2	10.52	August	71.3	9.7	8.55	August	75	7.0
September	59.8	6.0	6.27	September	61.2	7.6	4.82	September	60	7.2
October	49.4	5.3	2.83	October	46.7	5.6	2.00	Year	60.3	5.8
Year:				Year:				Year	60.3	5.8
Apr.-Sept.	60.2	6.8	42.50	Apr.-Sept.	61.1	9.9	43.70	Apr.-Sept.	43	7.4
Apr.-Oct.	58.6	6.5	44.93	Apr.-Oct.	59.1	9.3	45.70	May	54	6.4
1925	1931					1932				
April	48.8	9.0	5.56	April	48.8	7.9	4.26	April	47	6.3
May	57.2	6.5	6.01	May	59.6	9.0	7.33	May	64	7.45
June	62.5	5.9	7.73	June	69.8	9.5	10.31	June	67	3.1
July	72.1	7.1	10.15	July	68.7	9.5	10.11	July	75	3.1
August	65.3	7.0	7.69	August	59.4	8.2	5.22	August	70	2.9
September	60.1	5.4	5.80	September	50.2	5.9	2.65	September	61	2.3
October	50.9	4.0	4.08	Year:				Year	60.3	4.0
Year:				Apr.-Sept.	61.3	8.5	43.90	Apr.-Sept.	41	4.7
Apr.-Sept.	61.3	6.6	42.87	Apr.-Oct.	59.8	8.1	46.55	May	55	5.2
Apr.-Oct.	59.8	6.3	46.45	Year				Year	60.3	4.0

TABLE 2—Continued

Month and year	$\Theta_a$	W	V	$E_o$	Month and year	$\Theta_a$	W	V	$E_o$	
North Platte, Nebr.										
1921	° F.	M.p.h.	Inches		1927	° F.	M.p.h.	Inches		
April	49	10.1	0.216	4.570	April	50	8.4	0.213	4.196	
May	60	10.2	.341	6.637	May	60	10.8	.320	7.218	
June	71	6.7	.504	7.185	June	65	7.3	.418	6.194	
July	77	7.2	.549	10.873	July	72	5.7	.473	7.971	
August	73	3.3	.514	8.015	August	68	4.9	.499	5.349	
September	65	4.3	.365	5.502	September	64	6.0	.388	5.548	
Year	65.8	7.0	.415	42.782	Year	63.2	7.2	.390	36.476	
1922	1928					1929				
April	48	8.6	.246	4.644	April	45	10.3	.168	6.139	
May	60	8.1	.332	6.684	May	61	7.2	.331	6.301	
June	72	6.8	.475	8.243	June	61	5.9	.401	4.802	
July	72	5.5	.563	7.033	July	73	5.1	.587	6.730	
August	77	6.6	.505	8.057	August	72	5.6	.512	7.561	
September	68	5.7	.364	6.312	September	61	5.2	.306	6.148	
Year	66.2	6.6	.421	40.973	Year	62.2	6.6	.386	37.681	
1923	1929					1930				
April	49	9.1	.180	5.672	April	49	8.3	.247	4.382	
May	52	8.5	.222	5.949	May	56	9.0	.310	5.685	
June	66	6.7	.479	6.281	June	67	6.3	.454	6.179	
July	72	6.9	.484	8.119	July	77	5.0	.510	8.331	
August	73	6.2	.503	7.935	August	74	4.6	.552	5.980	
September	59	7.0	.341	4.749	September	65	4.8	.375	4.807	
Year	66.0	7.2	.404	41.512	Year	66.3	6.7	.394	45.897	
1924	1931					1932				
April	47	6.3	.172	5.312	April	52	10.7	.237	5.440	
May	64	7.8	.321	7.459	May	63	9.4	.324	7.705	
June	67	7.0	.422	7.453	June	69	6.8	.475	6.980	
July	75	6.5	.532	8.707	July	77	7.5	.556	9.112	
August	75	6.7	.528	8.593	August	75	7.0	.557	8.207	
September	60	7.2	.426	4.615	September	63	5.9	.365	6.267	
Year	64.6	6.9	.400	42.229	Year	66.5	7.9	.417	43.729	
1925	1931					1932				
April	43	7.4	.169	4.599	April	41	4.6	.175	2.373	
May	54	6.4	.294	4.715	May	50	4.4	.229	3.158	
June	68	5.2	.408	7.045	June	59	3.4	.341	5.129	
July	73	4.7	.337	9.647	July	67	3.1	.358	6.943	
August	70	4.3	.306	7.922	August	66	2.7	.280		

TABLE 2—Continued

Month and year	$\Theta_s$	W	V	E.	Month and year	$\Theta_s$	W	V	E.
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## Sheridan, Wyo.—Continued

1927	° F.	M.p.h.	Inches	1930	° F.	M.p.h.	Inches		
April	41	4.4	0.184	2.900	April	52	4.5	0.239	3.781
May	50	5.9	.240	4.600	May	53	6.1	.253	4.659
June	61	4.0	.367	4.944	June	62	4.7	.315	7.075
July	67	2.8	.416	6.164	July	74	3.6	.393	8.659
August	63	2.4	.383	4.577	August	73	4.0	.394	7.446
September	56	3.3	.283	3.902	September	59	3.5	.248	5.225
Year	56.3	3.8	.309	27.087	Year	62.0	4.4	.307	36.845
1928	° F.	M.p.h.	Inches	1931	° F.	M.p.h.	Inches		
April	42	5.7	.151	3.386	April	45	5.1	.158	4.029
May	58	4.4	.259	5.593	May	54	5.2	.227	5.420
June	57	3.7	.311	4.718	June	69	3.8	.377	7.592
July	68	2.8	.457	5.905	July	74	4.4	.336	9.850
August	65	3.1	.320	6.257	August	72	4.0	.320	8.043
September	56	3.7	.223	5.007	September	62	4.1	.244	5.916
Year	57.7	3.9	.287	30.866	Year	62.7	4.4	.277	40.850
1929	° F.	M.p.h.	Inches	1932	° F.	M.p.h.	Inches		
April	41	5.1	.163	2.863	April	47	6.7	.186	3.887
May	51	5.0	.222	4.603	May	56	4.7	.307	4.734
June	61	3.9	.331	5.866	June	63	2.8	.407	5.379
July	72	3.3	.376	7.520	July	72	3.5	.366	8.111
August	73	3.5	.352	7.767	August	71	3.6	.328	8.209
September	53	3.5	.242	3.929	September	58	3.3	.244	4.900
Year	58.5	4.0	.281	32.548	Year	61.2	4.1	.306	35.220

## Tucumcari, N.Mex.

1921	° F.	M.p.h.	Inches	1926	° F.	M.p.h.	Inches		
April	55	7.3	0.196	7.861	April	53	5.5	0.239	5.273
May	66	5.7	.352	7.826	May	63	5.3	.324	7.236
June	72	3.7	.504	6.416	June	73	4.5	.392	9.338
July	77	3.3	.533	8.377	July	76	3.9	.450	9.505
August	77	3.2	.501	8.993	August	77	3.8	.406	9.962
September	74	4.9	.414	8.629	September	71	5.9	.395	7.851
Year	70.0	4.7	.417	48.102	Year	68.8	4.8	.368	49.163
1922	° F.	M.p.h.	Inches	1927	° F.	M.p.h.	Inches		
April	56	6.8	.224	7.237	April	61	6.8	.148	9.453
May	65	5.8	.281	9.049	May	72	7.9	.181	14.445
June	76	5.6	.444	9.938	June	73	7.1	.342	11.125
July	81	5.5	.435	12.175	July	79	5.1	.460	10.374
August	82	4.5	.422	11.106	August	75	4.0	.486	8.001
September	74	4.3	.346	8.174	September	69	4.9	.420	6.340
Year	72.3	5.4	.359	57.679	Year	71.5	6.0	.340	59.708
1923	° F.	M.p.h.	Inches	1928	° F.	M.p.h.	Inches		
April	56	7.1	.233	7.065	April	55	6.6	.148	6.889
May	66	5.7	.274	9.995	May	65	4.6	.329	7.307
June	75	6.7	.418	10.344	June	74	5.8	.347	10.808
July	80	4.9	.470	11.310	July	80	4.9	.449	10.805
August	77	4.5	.477	9.772	August	75	4.9	.533	8.741
September	69	3.2	.394	6.530	September	70	4.5	.392	8.154
Year	70.5	5.4	.378	55.016	Year	69.8	5.2	.367	52.704
1924	° F.	M.p.h.	Inches	1929	° F.	M.p.h.	Inches		
April	56	6.8	.205	7.142	April	58	7.2	.240	8.525
May	62	5.8	.288	8.147	May	62	6.8	.330	7.646
June	78	5.5	.343	12.121	June	75	6.1	.378	10.441
July	77	4.9	.481	10.112	July	78	5.2	.463	10.800
August	78	4.8	.462	10.200	August	78	4.1	.456	9.014
September	68	4.8	.382	8.308	September	69	5.5	.386	6.919
Year	69.8	5.4	.360	56.030	Year	70.0	5.8	.376	53.405
1925	° F.	M.p.h.	Inches	1930	° F.	M.p.h.	Inches		
April	60	7.1	.181	9.388	April	64	5.6	.216	8.242
May	67	6.5	.324	9.260	May	64	7.9	.238	10.235
June	78	7.5	.361	12.329	June	76	7.0	.405	10.659
July	80	5.1	.471	11.090	July	78	5.2	.457	10.010
August	75	4.8	.473	8.736	August	79	4.2	.458	9.299
September	69	4.7	.454	6.038	September	72	4.4	.327	7.920
Year	71.5	6.0	.377	56.841	Year	72.2	5.7	.350	56.365

TABLE 2—Continued

Month and year	$\Theta_s$	W	V	E.	Month and year	$\Theta_s$	W	V	E.
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## Tucumcari, N.Mex.—Continued

1931	° F.	M.p.h.	Inches	1932	° F.	M.p.h.	Inches		
April	55	6.4	0.229	5.874	April	53	6.5	0.215	8.033
May	61	5.3	.293	7.891	May	66	6.1	.358	9.067
June	76	4.8	.425	10.273	June	73	5.0	.460	9.456
July	78	4.6	.567	9.957	July	80	4.9	.498	11.409
August	74	3.8	.543	8.097	August	79	5.1	.477	10.027
September	75	4.4	.489	7.756	September	68	4.2	.396	6.389
Year	69.8	4.9	.424	49.848	Year	70.5	5.3	.400	54.381

## Williston, N.Dak.

1917	° F.	M.p.h.	Inches	1917	° F.	M.p.h.	Inches		
April	37	5.7	0.192	2.008	April	60	7.6	0.379	5.599
May	53	5.5	.250	6.375	May	78	8.3	.490	8.157
June	62	7.1	.406	5.951	June	75	7.2	.566	9.250
July	73	5.8	.556	8.353	July	80	6.0	.609	9.813
Year	58.2	6.0	.358	33.143	Year	68.2	6.0	.358	33.143

## Woodward, Okla.

1921	° F.	M.p.h.	Inches	1927	° F.	M.p.h.	Inches		
April	57	9.1	.273	6.921	April	60	7.6	0.379	5.599
May	69	6.8	.420	8.044	May	70	8.3	.490	8.157
June	75	5.4	.614	7.280	June	75	7.2	.566	9.250
July	81	6.1	.654	9.323	July	80	6.0	.609	9.813
August	81	5.8	.583	10.294	August	75	4.5	.670	6.324
September	76	8.8	.555	8.751	September	72	6.8	.522	6.955
Year	73.2	7.0	.518	50.613	Year	72.0	6.7	.539	46.098
1922	° F.	M.p.h.	Inches	1928	° F.	M.p.h.	Inches		
April	57	8.1	.326	7.919	April	54	10.4	.238	7.319
May	68	6.9	.466	8.905	May	67	6.1	.438	6.999
June	78	5.7	.604	10.592	June	71	6.5	.579	7.080
July	82	6.0	.631	11.032	July	81	7.1	.642	9.844
August	83	6.3	.589	11.526	August	80	6.8	.603	10.016
September	75	6.4	.478	7.839	September	72	7.9	.427	9.242
Year	73.8	6.6	.516	57.813	Year	70.8	7.5	.488	50.480
1923	° F.	M.p.h.	Inches	1929	° F.	M.p.h.	Inches		
April	57	8.4	.331	5.504	April	61	10.6	.347	6.635
May	64	6.4	.422	6.343	May	64	7.5	.456	5.325
June	76	7.4	.601	8.421	June	77	7.9	.562	9.829
July	83	5.8	.642	10.698	July	81	7.0	.639	10.365
August	82	6.6	.540	11.642	August	83	6.3	.578	11.028
September	73	6.7	.555	6.503	September	70	7.3	.463	7.620
Year	71.5	7.0	.472	49.219	Year	72.6	7.8	.508	50.802
1924	° F.	M.p.h.	Inches	1930	° F.	M.p.h.	Inches		
April	57	9.1	.279	6.318	April	63	7.9	.322	7.053
May	61	6.0	.343	6.423	May	66	7.3	.434	7.312
June	80	7.6	.556	10.489	June	78	7.4	.567	9.960
July	81	6.5	.601	9.086	July	84	7.4	.584	12.962
August	82	6.5	.618	9.489	August	83	6.6	.545	11.711
September	68	6.2	.435	7.414	September	76	7.6	.445	8.842
Year	71.5	7.0	.472	49.219	Year	75.0	7.4	.483	57.840
1925	° F.	M.p.h.	Inches	1931	° F.	M.p.h.	Inches		
April	63	8.1	.339	6.854	April	54	7.9	.283	4.636
May	67	6.8	.430	7.167	May	63	7.0	.	

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive

Aberdeen, Idaho; lat. 42°40'; elevation 4,400 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1912 <sup>1</sup>	6	62.2	0.262	7.6	37.211
1913	6	58.7	.255	5.8	39.632
1914	6	58.2	.227	5.4	38.515
1915	6	58.2	.212	5.6	41.234
1916	6	57.2	.182	5.8	44.429
1917	6	57.3	.209	5.4	40.825
1918	6	58.7	.218	5.2	40.906
1919	6	60.8	.189	5.1	41.894
1920	6	57.2		5.6	37.970
15-year average, <sup>2</sup> 1917-31	59.2		5.5	42.20	

Akron, Colo.; lat. 40°40'; elevation 4,650 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1908	8	62.5	0.309	7.6	44.936
1909	8	60.0	.332	7.6	42.235
1910	8	62.3	.313	6.9	43.621
1911	8	63.0	.290	8.1	48.818
1912	8	62.5	.290	6.9	42.960
1913	8	62.8	.319	6.8	41.863
1915	8	58.8	.342	6.5	33.550
1916	6	61.3	.279	7.3	47.166
1917	6	60.3	.307	6.7	42.709
1918	6	61.2	.313	7.0	41.422
1919	6	63.2	.325	7.2	47.232
1920	6	58.2	.364	6.4	40.912
1921	6	63.3	.372	7.3	45.903
1922	6	63.5	.412	6.3	44.579
1923	6	61.7		6.5	40.016
1924	6	61.7		7.2	48.012
1925	6	64.5		6.7	47.290
1926	6	63.2		6.4	44.366
1927	6	60.5		5.0	40.429
1928	6	60.5		5.8	43.161
1929	6	62.3		6.1	41.997
1930	6	63.2		5.3	40.375
1931	6	63.8		4.6	47.532
1932	6	64.2		6.3	49.177
15-year average, 1917-31	62.0		6.3	43.729	
20-year average, 1913-32	62.0		6.4	43.533	

Amarillo, Tex.; lat. 35°20'; elevation 3,676 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1908	8	68.0	0.348	5.8	50.406
1909	8	69.2	.352	7.7	56.230
1910	6	69.5	.359	8.5	58.602
1911	6	69.5	.403	8.2	53.077
1912	6	67.5	.338	8.4	52.861
1913	6	69.5	.372	7.8	53.794
1914	6	69.5	.433	8.7	49.273
1915	6	67.0	.409	7.1	42.930
1916	6	73.8	.348	8.6	56.429
1917	6	67.5	.350	8.6	54.741
1918	6	69.2	.332	9.2	56.584
1919	6	67.8	.422	6.8	40.790
15-year average, <sup>2</sup> 1917-31	69.5		7.3	47.89	

Archer, Wyo.; lat. 41°00'; elevation 6,012 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1913 <sup>1</sup>	6	62.8	0.306	6.3	37.155
1914	6	59.2	.292	7.1	40.935
1915	6	55.5	.275	7.0	30.363
1916	6	57.2	.252	7.0	39.612
1917	6	55.8	.261	7.2	35.349
1918	6	56.2	.221	6.6	33.520
1919	6	59.7	.280	6.6	42.660
1920	6	54.0	.275	6.2	33.083
1921	6	58.7	.270	7.2	37.278
1922	6	57.7	.275	7.2	37.968
1923	6	56.3	.294	7.2	34.445
1924	6	56.2	.242	7.6	40.655
1925	6	58.7	.272	7.0	40.582
1926	6	57.2	.272	6.1	33.632
1927	6	56.7	.270	7.1	32.557
1928	6	55.6	.249	6.6	35.513
1929	6	56.7	.285	6.8	36.410
1930	6	58.7	.291	6.0	34.516
1931	6	59.7	.251	6.3	39.677
1932	6	59.2	.252	6.4	40.576
15-year average, 1917-31	57.2	.267	6.7	36.523	
20-year average, 1913-32	57.5	.267	6.7	36.312	

<sup>1</sup> Mean of 4 months, June, July, August, and September.<sup>2</sup> 4 months, June–September.<sup>3</sup> Computed by ratios of Akron, Moccasin, and Moro.<sup>4</sup> Month of April=average 1908-32 (10 years, data).<sup>5</sup> Month of April=average 1908-32 (20 years, data).<sup>6</sup> Computed by ratios of Dalhart, Tucumcari, and Chillicothe.<sup>7</sup> 4 months, June–September. Average for April and May 19 years' data. Prorated for 6 months.

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Ardmore, S.Dak.; lat. 43°20'; elevation 3,557 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1913	6	63.2	0.324	5.9	44.135
1914	6	63.0	.311	6.7	41.777
1915	6	59.2	.334	5.3	28.908
1916	6	59.5	.351	5.7	38.870
1917	6	59.2	.296	4.9	39.261
1918	6	59.3	.317	4.9	34.533
1919	6	62.7	.323	4.7	40.624
1920	6	59.0	.316	5.0	33.082
1921	6	61.8	.313	5.1	40.868
1922	6	61.8	.411	5.2	34.207
1923	6	60.2	.398	3.7	30.853
1924	6	59.5	.324	5.4	35.607
1925	6	63.2	.368	4.6	36.153
1926	6	61.8	.368	4.6	34.705
1927	6	58.3	.349	4.7	31.408
1928	6	60.2	.293	4.3	37.738
1929	6	61.5	.300	6.2	40.638
1930	6	63.8	.334	5.7	43.137
1931	6	65.0	.300	7.4	51.760
1932	6	64.0	.338	6.7	45.856
15-year average, 1917-31	61.2	.334	5.1	37.638	
20-year average, 1913-32	61.3	.333	5.3	38.206	

Biggs, Calif.; lat. 39°0'; elevation 94 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1914	6	70.0	0.444	4.3	38.165
1915	6	70.7	.422	3.7	41.190
1916	6	70.3	.418	4.0	45.330
1917	6	71.3	.400	3.6	44.390
1918	6	70.5	.424	2.9	47.924
1919	6	71.3	.457	3.1	42.052
1920	6	70.1		3.1	33.959
1921	6	70.2		3.1	40.025
1922	6	70.7		2.7	35.486
1923	6	69.6		3.0	40.172
1924	6	70.9		3.4	40.479
1925	6	70.3		2.6	36.452
1926	6	71.0		2.7	34.291
1927	6	69.5		3.4	37.572
1928	6	70.5		2.8	35.200
1929	6	69.2		2.9	38.744
1930	6	68.9		2.8	34.983
1931	6	71.6		3.4	41.699
1932	6	69.6		2.8	32.703
15-year average, 1917-31	70.4		3.0	38.955	

Big Springs, Tex.; lat. 32°0'; elevation 2,396 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E <sub>a</sub>
1	2	3	4	5	6
1915 <sup>1</sup>	6	78.2	0.558	6.4	<sup>2</sup> 37.108
1916	6	75.2	.444	7.0	58.131
1917	6	75.8	.390	7.9	67.791
1918	6	76.2	.389	6.8	65.921
1919	6	73.2	.505	5.1	50.888
1920	6	72.5	.500	5.0	53.441
1921	6	76.5	.458	5.3	60.613
1922	6	74.8	.472	4.7	60.028
1923	6	75.2	.478	5.3	52.219
1924	6	76.0	.526	5.2	56.300
1925	6	76.2	.564	5.1	54.028
1926	6	74.0	.514	4.3	51.591
1927	6	77.7	.477	4.8	59.991
1928	6	74.5	.486	4.4	50.588
1929	6	75.8	.492	4.3	51.483
1930	6	77.0	.484	4.3	53.949
1931	6	75.5	.465	4.8	50.943
1932	6	73.5	.532	4.2	43.617
15-year average, 1917-31	75.4	.480	5.2	55.986	

Burns, Oreg.; lat. 43°40'; elevation 4,125 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	E<sub>a</sub>
1	2	3	4	5	6




<tbl\_r cells="6" ix="4" maxcspan="1" maxrspan="1"

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Chillicothe, Tex.; lat. 34°20'; elevation 1,406 feet

Year	Diameter of pan, feet	$\Theta_a$	V	W	$E_o$		
		1	2	3	4	5	6
1912 <sup>1</sup>	6	78.5	0.570	5.4	35.782		
1913	6	76.2	.445	7.2	55.252		
1914	6						
1915	6	73.5	.543	5.4	39.670		
1916	6	75.2	.460	7.5	53.234		
1917	6	74.5	.409	8.1	55.333		
1918	6	76.3	.422	7.8	60.605		
1919	6	73.5	.541	6.2	42.811		
1920	6	73.0		7.1	45.369		
1921	6	76.6		7.17	53.172		
1922	6	75.8		6.27	50.091		
1923	6	75.6		6.32	51.641		
1924	6	74.6		6.84	48.790		
1925	6	76.7		6.34	46.500		
1926	6	73.9		5.78	37.832		
1927	6	77.0		6.51	42.865		
1928	6	75.6		6.90	43.463		
1929	6	77.1		6.25	42.923		
1930	6	79.1		6.57	51.999		
1931	6	76.6		6.10	44.423		
1932	6						
15-year average, 1917-31		75.7		6.7	47.855		

Colby, Kans.; lat. 39°30'; elevation 3,135 feet

1914 <sup>1</sup>	6	72.8	0.471	6.0	33.419
1915	6	62.5	.427	6.1	31.657
1916	6	65.2	.349	7.6	45.532
1917	6	63.7	.346	7.3	38.720
1918	6	65.3	.346	7.8	41.375
1919	6	65.5	.411	6.3	39.641
1920 <sup>14</sup>	6	62.4	.410	6.2	33.127
1921	6	66.0	.433	6.5	39.363
1922	6	66.7	.376	6.7	42.585
1923	6	63.7	.420	15 6.3	37.371
1924	6	64.0	.352	7.5	45.306
1925	6	67.8	.378	7.6	48.968
1926	6	66.3	.357	7.9	49.287
1927	6	65.5	.381	7.7	43.225
1928	6	63.5	.379	6.6	40.581
1929	6	65.8	.392	7.2	41.936
1930	6	66.7	.412	6.1	40.077
1931	6	66.5	.376	6.8	44.922
1932	6	67.2	.391	7.7	45.968
15-year average, 1917-31		65.3	.385	7.0	41.766

Crowley, La.; lat. 30°15'; elevation 21 feet

1910	6	76.7	0.686	2.8	32.808
1911	6	78.3	.734	2.6	33.129
1912	6	77.5	.735	2.9	30.649
1913	6	76.0	.688	2.6	31.299
1914	6	77.7	.729	2.6	31.741
1915	6	77.5	.709	3.2	33.917
1916	6	76.3	.717	2.5	32.876
1917	6	75.8	.680	2.9	35.607
1918	6	76.5	.716	2.4	34.787
1919	6	77.0	.734	2.3	30.569
1920	6	77.7		17 2.4	28.335
1921	6	78.0		18 2.3	32.976
1922	6	78.3		19 2.5	32.148
1923	6	77.5		2.5	28.687
1924	6	78.3		2.6	33.722
1925	6	81.8		2.4	33.352
1926	6	77.7		2.2	30.438
1927	6	79.3		2.0	27.894
1928	6	76.2		3.0	31.927
1929	6	78.2		3.4	33.817
1930	6	78.2		3.1	33.319
1931	6	76.8		2.7	33.332
15-year average, 1917-31		77.8		2.6	32.061

Dalhart, Tex.; lat. 36°20'; elevation 4,000 feet

1908	8	66.2	0.378	8.7	55.930
1909	8	66.3	.342	8.6	59.402
1910	8	67.7	.329	8.0	57.632
1911	8	70.0	.360	8.6	59.210

<sup>1</sup> Mean of 4 months, June, July, August, and September.<sup>2</sup> 4 months, June–September.<sup>14</sup> Mean of 5 months, April, May, June, July, and August.<sup>15</sup> Prorated for 6 months.<sup>16</sup> April missing, 17 years average taken.<sup>17</sup> Certain days missing in September. Prorated for full month.<sup>18</sup> Certain days missing in April and July. Prorated for full month.<sup>19</sup> Certain days missing in July. Prorated for full month.

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Dalhart, Tex.; lat. 36°20'; elevation 4,000 feet—Continued

Year	Diameter of pan, feet	$\Theta_a$	V	W	$E_o$		
		1	2	3	4	5	6
1912	8	65.8	0.352	8.1	53.910		
1913	8	69.0	.471	7.2	56.270		
1914	8	67.3	.410	7.1	50.727		
1915	8	66.2	.445	6.3	46.626		
1916	8	67.8	.410	8.3	55.807		
1917	8	67.0	.368	8.7	57.396		
1918	8	67.7	.424	8.0	54.569		
1919	8	67.2	.432	6.3	45.148		
1920	8	65.7	.402	6.9	46.240		
1921	8	67.5	.393	6.5	44.473		
1922	8	69.7	.365	6.0	49.746		
1923	8	67.5	.405	6.0	43.357		
1924	8	66.8	.364	5.8	48.732		
1925	8	69.3	.434	5.4	45.369		
1926	8	66.5	.409	5.5	42.617		
1927	8	68.3	.455	5.9	48.413		
1928	8	66.7	.399	6.0	43.580		
1929	8	67.2	.399	6.5	46.320		
1930	8	69.3	.375	6.1	55.351		
1931	8	68.2	.374	5.8	49.580		
1932	8	68.3	.369	5.6	50.601		
15-year average, 1917-31		67.6	.400	6.4	48.079		
20-year average, 1913-32		67.7	.405	6.5	49.046		

Dickinson, N.Dak.; lat. 47°00'; elevation 2,543 feet

1908	8	58.2	0.292	7.1	33.375
1909	8	56.8	.360	6.7	29.518
1910	8	57.8	.293	6.7	36.158
1911	8	55.5	.299	8.0	36.441
1912	8	56.0	.326	7.4	28.988
1913	8	58.2	.355	7.3	33.870
1914	8	57.8	.363	7.0	31.139
1915	8	55.8	.341	6.4	26.628
1916	8	56.3	.343	6.7	27.081
1917	8	56.5	.295	6.0	36.679
1918	8	57.3	.329	6.8	32.362
1919	8	62.2	.319	6.4	44.629
1920	8	56.5	.318	5.7	30.042
1921	8	58.7	.334	6.6	36.104
1922	8	58.5	.355	5.4	31.990
1923	8	58.0	.379	4.9	30.072
1924	8	53.7	.330	5.3	29.577
1925	8	58.8	.404	5.8	36.439
1926	8	57.8	.338	6.4	36.173
1927	8	55.7	.369	6.2	28.317
1928	8	56.2	.328	4.4	30.663
1929	8	56.0	.313	5.6	35.939
1930	8	59.0	.313	6.3	38.963
1931	8	59.8	.320	6.3	41.501
1932	8	59.3	.361	5.9	36.029
15-year average, 1917-31		57.6	.336	5.9	34.630
20-year average, 1913-32		57.6	.340	6.1	33.790
Edgeley, N.Dak.; lat. 46°20'; elevation 1,468 feet					
1908 <sup>20</sup>	8	61.4	0.374	7.1	28.621
1909	8	57.5	.376	6.9	28.047
1910	8	59.2	.319	7.8	35.096
1911	8	58.0	.348	7.2	32.393
1912	8	56.7	.384	4.3	25.950
1913	8	59.5	.373	6.3	29.220
1914	8	58.5	.393	6.4	29.189
1915	8	56.0	.353	6.1	26.053
1916	8	57.3	.392	7.0	25.562
1917	8	56.8	.340	6.5	31.632
1918	8	57.2	.343	7.0	30.271
1919	8	58.3	.422	7.1	30.097
1920	8	57.3	.372	5.9	27.185
15-year average, <sup>21</sup> 1917-31		57.7	.377	6.3	29.290
Garden City, Kans.; lat. 38°00'; elevation 2,836 feet					
1908	8	69.2	0.400	10.2	56.132
1909	8	68.2	.417	8.8	51.563
1910	8	68.0	.437	8.3	48.408
1911	8	70.5	.389	10.4	58.021
1912	8	67.0	.394	9.2	53.077
1913	8	70.0	.365	9.9	54.525
1914	8	70.8	.421	9.0	52.691
1915	8	65.3	.457	7.5	41.758
1916	8	67.8	.378	8.9	57.459
1917	8	66.8	.385	8.6	54.823
1918	8	68.5	.376	8.7	54.111
1919					
20-year average, <sup>22</sup> 1917-31					
21 Mean of 5 months, May, June, July, August, and September.					

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Garden City, Kans.; lat. 38°00'; elevation 2,836 feet—Continued

Year	Diameter of pan, feet	E <sub>o</sub>			
		θ <sub>a</sub>	V	W	E <sub>o</sub>
1	2	3	4	5	6
1919	6	69.0	0.436	8.9	51.493
1920	6	66.3	.417	8.4	51.199
1921	6	69.3	.505	8.7	53.351
1922	6	70.2	.411	8.6	57.473
1923	6	67.7	.456	8.6	47.904
1924	6	66.7	.400	8.8	53.326
1925	6	71.0	.426	8.8	58.754
1926	6	68.2	.459	8.4	55.912
1927	6	68.8	.436	9.3	56.598
1928	6	66.3	.427	8.2	50.970
1929	6	68.5	.431	8.6	53.891
1930	6	70.5	.415	8.4	61.562
1931	6	70.2	.397	8.8	58.715
1932	6	70.3	.421	9.3	56.601
15-year average, 1917–31		68.5	.425	8.5	54.672
20-year average, 1913–32		68.6	.421	8.6	54.156

Havre, Mont.; lat. 48°40'; elevation 2,505 feet

1916	6	56.7	0.303	5.3	30.558
1917	6	57.3	.268	4.8	34.638
1918	6	58.3	.244	4.9	36.473
1919	6	61.0	.290	5.4	39.980
1920	6	57.7	.281	5.8	36.985
1921	6	58.3	.278	6.1	38.302
1922	6	59.5	.290	5.8	34.390
1923	6	58.2	.319	5.2	32.505
1924	6	57.2	.293	5.5	33.097
1925	6	58.8	.299	5.0	30.629
1926	6	58.2	.276	5.6	36.078
1927	6	55.7	.313	5.3	27.790
1928	6	57.2	.290	5.5	32.056
1929	6	57.2	.252	5.0	34.693
1930	6	60.8	.282	6.2	41.273
1931	6	59.6	.266	5.9	43.921
1932	6	59.5	.300	6.4	37.809
15-year average, 1917–31		58.2	.283	5.5	35.321

Hays, Kans.; lat. 39°00'; elevation 2,000 feet

1908	8	67.2	0.451	7.8	44.381
1909	8	67.0	.466	7.8	47.471
1910	8	66.3	.444	7.0	43.819
1911	8	71.7	.412	10.0	59.824
1912	8	68.5	.421	8.6	46.965
1913	8	70.8	.412	9.6	58.300
1914	8	68.5	.470	7.8	47.096
1915	8	64.8	.480	6.6	33.277
1916	8	68.2	.417	8.2	50.231
1917	6	67.5	.384	8.4	50.489
1918	6	68.5	.405	7.8	47.569
1919	6	68.3	.461	7.2	40.996
1920	6	66.3	.489	7.3	39.776
1921	6	70.2	.518	7.3	44.557
1922	6	70.3	.511	7.8	47.320
1923	6	68.5	.497	8.0	42.803
1924	6	67.3	.450	7.9	48.622
1925	6	70.7	.493	7.8	48.809
1926	6	69.0	.454	8.3	52.034
1927	6	67.7	.453	7.6	42.522
1928	6	66.2	.445	7.5	42.308
1929	6	68.3	.452	8.1	43.737
1930	6	69.8	<sup>22</sup> .453	<sup>24</sup> 7.9	<sup>25</sup> 46.372
1931	6	70.5	.446	8.0	52.271
1932	6	69.8	.495	7.5	46.314
15-year average, 1917–31		68.6	.480	7.8	46.011
20-year average, 1913–32		68.6	.458	7.8	46.269

Hettinger, N.Dak.; lat. 46°00'; elevation 2,253 feet

1911	6	58.0	0.310	7.6	44.653
1912	6	57.2	.341	6.8	29.597
1913	6	58.6	.337	7.4	<sup>26</sup> 35.390
1914	6	57.3	.348	6.9	32.751
1915	6	55.3	.358	6.0	25.495
1916	6	56.3	.356	6.1	27.854
1917	6	56.8	.325	8.4	32.606
1918	6	58.0	.362	6.0	34.975
1919	6	61.8	.382	5.6	39.047
1920	6	57.8	.365	5.7	29.326
1921	6	61.0	<sup>27</sup> .352	6.0	34.252
15-year average, <sup>22</sup> 1917–31		58.3	.359	6.0	32.42

<sup>22</sup> Computed by ratios of Ardmore, Dickinson, and Mandan.<sup>23</sup> April, May, June, July missing. Average 1907–32 (25 years data).<sup>24</sup> April, May, June, July missing. Average 1908–32 (24 years data).<sup>25</sup> April, May, June, July missing. Prorated for 6 months by average 1908–32.<sup>26</sup> September missing. Average of 10 years data. Prorated for 6 months.<sup>27</sup> September average 1911–20.

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Lawton, Okla.; lat. 34°35'; elevation 1,111 feet

Year	Diameter of pan, feet	E <sub>o</sub>			
		θ <sub>a</sub>	V	W	E <sub>o</sub>
1	2	3	4	5	6
1916	6	73.5	0.557	6.3	46.716
1917	6	73.3	.499	6.9	51.025
1918	6	75.5	.509	6.6	52.396
1919	6	72.7	.590	4.8	37.017
1920	6	72.3	.574	5.4	38.331
1921	6	75.2	.600	5.5	38.753
1922	6	75.0	<sup>28</sup> .560	5.0	39.563
1923	6	74.5	<sup>29</sup> .552	5.3	42.233
1924	6	73.2	<sup>30</sup> .541	5.3	43.520
1925	6	76.5	<sup>31</sup> .568	5.8	48.892
1926	6	73.0	<sup>32</sup> .554	5.0	42.641
1927	6	74.3	<sup>33</sup> .554	5.3	42.229
1928	6	73.0	<sup>33</sup> .554	5.5	40.684
1929	6	74.3	<sup>33</sup> .554	5.5	43.543
1930	6	76.3	<sup>33</sup> .554	5.4	48.124
1931	6	74.3	.692	6.0	45.632
1932	6	74.6	<sup>34</sup> .591	5.8	43.113
15-year average, 1917–31		74.2	.564	5.5	43.626

Mandan, N.Dak.; lat. 47°00'; elevation 1,750 feet

1914	6	60.3	0.408	6.2	33.949
1915	6	57.5	.338	5.8	28.616
1916	6	58.5	.346	6.1	31.277
1917	6	58.0	.307	5.9	35.682
1918	6	58.2	.321	6.4	35.499
1919	6	62.3	.369	6.3	39.591
1920	6	59.8	.334	5.8	35.251
1921	6	62.2	.347	5.9	39.262
1922	6	61.8	.380	5.2	33.855
1923	6	60.5	.363	5.8	33.536
1924	6	53.6	.302	6.1	29.799
1925	6	60.5	.336	6.1	32.054
1926	6	59.8	.302	6.4	34.467
1927	6	57.2	.350	6.1	29.078
1928	6	57.3	.334	5.3	32.209
1929	6	58.7	.293	5.5	33.450
1930	6	61.0	.326	5.9	34.413
1931	6	61.5	.333	6.1	34.458
1932	6	61.2	.343	5.8	32.334
15-year average, 1917–31		59.5	.333	5.9	34.175

Moocassin, Mont.; lat. 47°15'; elevation 4,228 feet

1910	6	57.2	0.279	6.7	40.135
1911	6	52.7	.272	6.2	28.770
1912	6	54.5	.276	6.2	31.326
1913	6	56.5	.276	6.8	32.272
1914	6	56.0	.276	6.8	32.272
1915	6	54.0	.271	6.3	28.492
1916	6	53.3	.246	7.1	35.520
1917	6	54.0	.229	7.0	37.673
1918	6	55.4	.270	5.8	<sup>34</sup> 30.676
1919	6	58.2	.238	7.2	43.186
1920	6	53.8	.254	6.3	32.036
1921	6	54.7	.248	6.9	32.075
1922	6	56.5	.278	6.4	34.750
1923	6	55.3	.291	5.2	31.533
1924	6	53.0	.245	6.0	31.680
1925	6	55.7	.264	6.8	34.502
1926	6	54.5	.266	6.3	33.126
1927	6	52.3	.284	6.0	29.196
1928	6	54.0	.261	6.1	37.386
1929	6	54.7	.243	6.2	35.637
1930	6	58.0	.292	5.9	34.802
1931	6	57.5	.255	6.5	38.160
1932	6	56.8	.268	6.2	35.502
15-year average, 1917–31		55.2	.261	6.3	34.285
20-year average, 1913–32		55.2	.263	6.4	33.977

Moro, Oreg.; lat. 45°40'; elevation 1,800 feet

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TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Moro, Oreg.; lat. 45°40'; elevation 1,300 feet—Continued

Year	Diameter of pan, feet	E <sub>a</sub>			
		θ <sub>a</sub>	V	W	E <sub>a</sub>
1	2	3	4	5	6
1921	6	58.8		6.6	42.18
1922	6	59.7		8.6	47.13
1923	6	60.2		6.8	42.50
1924	6	60.7		8.4	52.34
1925	6	61.3		6.6	42.37
1926	6	61.5		7.7	48.45
1927	6	59.0		6.8	40.44
1928	6	60.2		8.8	45.41
1929	6	60.5		8.7	43.45
1930	6	61.1		9.9	43.70
1931	6	61.3		8.5	43.90
1932	6				
15-year average, 1917–31		60.2		7.7	44.236

North Platte, Nebr.; lat. 41°20'; elevation 2,841 feet

1908	8	63.7	0.424	8.1	41.936
1909	8	62.8	.425	7.4	40.423
1910	8	64.0	.386	8.4	46.564
1911	8	65.2	.415	9.0	49.702
1912	8	62.8	.406	7.8	41.678
1913	8	66.2	.426	8.3	51.456
1914	8	66.5	.432	7.7	47.436
1915	6	61.3	.411	6.5	35.469
1916	6	63.8	.384	7.5	43.603
1917	6	62.2	.392	7.3	40.578
1918	6	63.8	.392	7.3	41.849
1919	6	65.0	.418	6.7	40.126
1920	6	62.5	.382	6.1	36.376
1921	6	65.8	.415	7.0	42.782
1922	6	66.2	.421	6.6	40.973
1923	6	62.6	.424	6.3	34.209
1924	6	61.8	.368	7.4	38.705
1925	6	66.0	.404	7.2	41.512
1926	6	64.6	.400	6.9	42.229
1927	6	63.2	.390	7.2	36.476
1928	6	62.2	.386	6.6	37.681
1929	6	64.2	.406	7.0	38.128
1930	6	65.5	.408	6.3	35.384
1931	6	66.3	.394	6.7	45.897
1932	6	66.5	.417	7.9	43.729
15-year average, 1917–31		64.1	.400	6.8	30.326
20-year average, 1913–32		64.3	.404	7.0	40.720

Sheridan, Wyo.; lat. 41°40'; elevation 3,790 feet

1917	6	57.5	0.277	5.1	<sup>33</sup> 37.027
1918	6	58.5	.316	4.4	31.567
1919	6	63.5	.265	4.8	43.663
1920	6	57.3	.314	4.3	30.472
1921	6	60.3	.285	5.8	39.238
1922	6	59.7	.321	3.6	31.086
1923	6	59.3	.318	4.1	31.581
1924	6	56.7	.272	3.6	29.424
1925	6	60.3	.312	4.0	37.840
1926	6	59.3	.284	4.0	33.499
1927	6	56.3	.309	3.8	27.087
1928	6	57.7	.287	3.9	30.866
1929	6	55.5	.281	4.0	32.548
1930	6	62.0	.307	4.4	36.845
1931	6	62.7	.277	4.4	40.850
1932	6	61.2	.306	4.1	35.220
15-year average, 1917–31		59.3	.295	4.3	34.420

<sup>33</sup> April missing. Mean of 15 years data. Prorated for 6 months.

TABLE 3.—Summary of U.S. Bureau of Plant Industry evaporation records, April–September, inclusive—Continued

Tucumcari, N.Mex.; lat. 35°30'; elevation 4,194 feet

Year	Diameter of pan, feet	E <sub>a</sub>			
		θ <sub>a</sub>	V	W	E <sub>a</sub>
1	2	3	4	5	6
1913	6	69.7	0.341	6.4	54.686
1914	6	70.2	.414	6.0	49.137
1915	6	69.0	.354	6.1	52.503
1916	6	70.7	.315	6.5	59.901
1917	6	69.8	.324	6.7	63.461
1918	6	70.8	.328	7.7	64.683
1919	6	68.5	.485	5.2	45.788
1920	6	65.2	.420	5.4	48.849
1921	6	70.0	.417	4.7	48.102
1922	6	72.3	.359	5.4	57.679
1923	6	70.5	.378	5.4	55.016
1924	6	69.8	.360	5.4	56.030
1925	6	71.5	.377	6.0	56.841
1926	6	68.8	.368	4.8	49.163
1927	6	71.5	.340	6.0	50.798
1928	6	69.8	.367	5.2	52.704
1929	8	70.0	.376	5.8	53.405
1930	6	72.2	.350	5.7	56.365
1931	6	69.8	.424	4.9	49.848
1932	6	70.5	.400	5.3	54.381
15-year average, 1917–31		70.0	.378	5.6	54.515
20-year average, 1913–32		70.0	.375	5.7	54.376

Williston, N.Dak.; lat. 48°00'; elevation 1,875 feet

1909	8	57.0	0.409	6.3	32.586
1910	8	59.3	.306	6.6	37.981
1911	8	57.7	.315	6.9	37.105
1912	8	57.3	.346	5.8	29.078
1913	8	59.8	.356	5.8	35.479
1914	8	59.0	.378	5.0	32.205
1915	8	57.2	.336	5.7	30.454
1916	8	56.7	.345	5.8	29.940
1917	8	58.2	.358	6.0	33.143
15-year average, <sup>34</sup> 1917–31		58.5	.357	5.3	33.650

Woodward, Okla.; lat. 36°30'; elevation 1,900 feet

1914	6	73.7	0.482	8.5	52.647
1915	6	69.3	.500	7.2	41.662
1916	6	71.7	.462	8.0	53.926
1917	6	70.8	.441	7.8	49.865
1918	6	72.3	.442	7.2	49.779
1919	6	71.2	.535	6.8	45.321
1920	6	70.3	.493	7.7	48.150
1921	6	73.2	.518	7.0	50.613
1922	6	73.8	.516	6.6	57.813
1923	6	72.5	.515	6.9	49.111
1924	6	71.5	.472	7.0	49.219
1925	6	74.3	.572	6.5	50.953
1926	6	71.2	.557	6.6	47.769
1927	6	72.0	.539	6.7	46.098
1928	6	70.8	.488	7.5	50.480
1929	6	72.6	.508	7.8	50.802
1930	6	75.0	.483	7.4	57.840
1931	6	73.0	.462	7.2	52.983
1932	6	73.0	.516	7.3	52.130
15-year average, 1917–31		72.3	.503	7.1	50.453

<sup>34</sup> Computed by ratios of Dickinson, Mandan, and Moccasin.

## A SURPRISING DECREASE IN RAINFALL AT THE CRITICAL PERIOD FOR CORN

By ANDREW D. ROBB

{Weather Bureau Office, Topeka, Kans.}

The amount of rainfall at the critical period of corn development determines to a great extent the resulting yield. Prof. J. Warren Smith, in his article, *The Effect of Weather Upon the Yield of Corn*, in the *MONTHLY WEATHER REVIEW* of February 1914, found that the critical period for corn in Ohio was the 30 days from July 11 to August 10; that is, the rainfall previous to July 11 did not have a very great effect upon the yield of corn and that which fell after August 10 need not be taken very seriously into account. Ohio being in the same lati-

tude as most of the Corn Belt, the critical period of corn in that State would coincide with that of most of the corn-producing area.

At 23 of the 32 first-order stations of the Weather Bureau in the corn-producing area of eastern Kansas and Nebraska, Iowa, Missouri, Illinois, Indiana, Kentucky, and western Ohio, there is a period from July 16 to 29, when the average precipitation drops below that of either the 14 days preceding or the 14 days following. This is shown by the sums of the average daily precipitation,